



Test Report Of ANSI/IES LM-79-19

APPROVED METHOD FOR OPTICAL AND ELECTRICAL MEASUREMENTS OF SOLID-STATE LIGHTING PRODUCTS

Report Number..... : N02A23060187L01001

Client..... : Luci Pte. Ltd.

Address..... : 52A Tanjong Pagar Road, Singapore 088473

Test Model..... : LFUMAY-T1000WL-L27-DF-O-2 24V 2W/m

Brand Name..... : N/A

Testing Laboratory... : Guangdong Meide Testing Technology Co., Ltd.

Address..... : 1st floor, B Area, Jinbaisheng Industrial Park, Headquarters 2 Road, Songshan Lake Hi-tech Industrial Development Zone, Dongguan City, Guangdong Pr., China.

Testing Location..... : As above

Date of receipt..... : June. 17, 2023

Date of test : June. 26, 2023 – July. 04, 2023

Date of report..... : July. 04, 2023

Tested by:

Jarvis Zhang

Jarvis Zhang/ Test Engineer

Checked by:

Sandy Chen

Sandy Chen/ Project Engineer



Jessie Li/ Technical Manager

Note 1: The test data was only valid for the test sample(s). This test report is prepared for the customer shown above and for the device described herein. It may not be duplicated or use in part without prior written consent from Guangdong Meide Testing Technology Co., Ltd. This report must not be used by the customer to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the Federal Government.

Note 2: This report does not imply product certification, approval, or endorsement by NVLAP, NIST, or any agency of the Federal Government.

Note 3: This report contains data that are not covered by the NVLAP accreditation. It is marked * in the title.

1. Product Description for Equipment under Test (EUT)

Representative (Tested) Model: LFUMAY-T1000WL-L27-DF-O-2 24V 2W/m

Manufacturer:

Product Type: UQ mini

Rated Voltage/Frequency: DC24V

Rated Power: 2W

Rated luminous flux: /

Nominal CCT: 2700K

2. Standards Used

- ANSI/IES LM-79-19:APPROVED METHOD:OPTICAL AND ELECTRICAL MEASUREMENTS OF SOLID-STATE LIGHTING PRODUCTS
- IES TM-30-18 IES Method for Evaluating Light Source Color Rendition (This Method is not in Nvlap accreditation scope)

3. Test equipment list

Test Equipment	Serial No.	Model No.	Calibration due date
Full-field Speed Goniophotometer	MD-E028	GO-R5000	2023/09/17
Digital Power Meter	MD-E001	PF2010	2023/09/17
AC Testing Power Source	MD-E002	DPS1060	2023/09/17
Total Spectral Radiant Flux Standard Lamp	MD-E007	D908S	2023/10/13
Integrating Sphere System	MD-E029	2M	2023/09/17
High Accuracy Array Spectroradio Meter	MD-E011	HAAS-3000	2023/09/17
Digital Power Meter	MD-E008	PF310	2023/09/17
AC Testing Power Source	MD-E010	DPS1010	2023/09/17
Standard Lamp	MD-E036	D204	2023/10/13

Statement of Traceability: Guangdong Meide Testing Technology Co., Ltd. attested that all calibration has been performed using suitable standards traceable to national primary standards and International System of Unit(SI).

4. Test Method

Requirements of Ambient Condition

Product was tested with no seasoning. All stabilization and measurements were made in compliance with ANSI/IES LM-79-19. The product was operated at rated voltage or at voltage required by manufacturer. The ambient temperature of the sample was maintained at $25^{\circ}\text{C} \pm 1.2^{\circ}\text{C}$ during measurement. And relative humidity between 10% and 65%.

Goniophotometer System

The sample was tested according to the ANSI/IES LM-79-19.

Photometric parameters were measured using a type C goniophotometer and software. The samples were operated at rated voltage and was stabilized before measurement. Luminous flux, Luminous efficacy, zonal flux were calculated from the software taken at 1° vertical intervals and 22.5° horizontal intervals. Photometric distance was more than five times of the Largest dimension of the test SSL product.

Integrating Sphere System

The sample was tested according to the ANSI/IES LM-79-19.

The sample measurements were made using a spectroradiometer connected by a fiber optic cable and detector through the detector port of the integrating sphere. Coating reflectance of the integrating sphere was 90% to 98%. Photometric measurement conditions was using 4π geometry. The self-absorption factor is applied in the final test result. The sample was operated at rated voltage and was stabilized before measurement. Chromaticity coordinates, correlated color temperature and color rendering index were calculated from the spectral radiant flux measurements taken at 1 nm intervals over the range of 380 to 780 nm.

Fidelity Index (R_f) and Gamut Index (R_g) Calculation

The R_f , R_g was calculated according to IES TM-30-18 by using calculation tools. The calculation was based on the measured SPD from 380nm to 780nm with 1nm intervals. All the colors in this report is for reference only.

5. Integrating Sphere Test Results

5.1 Test Data

Test Ambient Temperature (Integrating sphere internal temperature)	25.1℃	Test orientation	Downward
Operate time(Min.)	30	stabilization time(Min.)	0

Optical and Electrical Measurement Result

Number	Time	Current (A)	Voltage (V)	Power (W)	Flux(lm)	x	y	u'	v'	CCT (K)	Ra
0	00h00m00s	0.0867	23.998	2.0806	95.917	0.4795	0.4116	0.2747	0.5307	2455	93.9
1	00h00m10s	0.0866	23.998	2.0782	95.887	0.4794	0.4116	0.2747	0.5307	2456	93.8
2	00h00m20s	0.0866	23.998	2.0782	95.854	0.4795	0.4115	0.2748	0.5307	2454	93.8
3	00h00m30s	0.0865	23.998	2.0758	95.703	0.4793	0.4114	0.2747	0.5306	2456	93.8
4	00h00m40s	0.0865	23.998	2.0758	95.717	0.4795	0.4116	0.2748	0.5307	2455	93.8
5	00h00m50s	0.0865	23.998	2.0758	95.579	0.4793	0.4114	0.2747	0.5306	2456	93.9
6	00h01m00s	0.0865	23.998	2.0758	95.563	0.4794	0.4113	0.2748	0.5306	2454	93.9
7	00h01m10s	0.0865	23.998	2.0758	95.429	0.4795	0.4113	0.2749	0.5306	2452	93.8
8	00h01m20s	0.0864	23.998	2.0734	95.452	0.4794	0.4113	0.2749	0.5306	2453	93.9
9	00h01m30s	0.0864	23.998	2.0734	95.393	0.4795	0.4113	0.2749	0.5306	2452	93.8
10	00h01m40s	0.0864	23.998	2.0734	95.439	0.4797	0.4116	0.2749	0.5307	2452	93.8
11	00h01m50s	0.0864	23.998	2.0734	95.398	0.4795	0.4113	0.2749	0.5306	2453	93.8
12	00h02m00s	0.0864	23.998	2.0734	95.354	0.4796	0.4113	0.275	0.5306	2451	93.8
13	00h02m10s	0.0864	23.998	2.0734	95.321	0.4794	0.4114	0.2748	0.5306	2454	93.9
14	00h02m20s	0.0864	23.998	2.0734	95.341	0.4794	0.4115	0.2748	0.5306	2455	93.9
15	00h02m30s	0.0864	23.998	2.0734	95.257	0.4797	0.4114	0.275	0.5307	2451	93.8
16	00h02m40s	0.0864	23.998	2.0734	95.248	0.4796	0.4114	0.2749	0.5306	2452	93.8
17	00h02m50s	0.0864	23.998	2.0734	95.221	0.4794	0.4112	0.2749	0.5305	2454	93.8
18	00h03m00s	0.0864	23.998	2.0734	95.198	0.4795	0.4112	0.275	0.5305	2451	93.8
19	00h03m10s	0.0864	23.998	2.0734	95.139	0.4795	0.4112	0.2749	0.5306	2452	93.8
20	00h03m20s	0.0864	23.998	2.0734	95.201	0.4795	0.4115	0.2749	0.5307	2453	93.9
21	00h03m30s	0.0864	23.998	2.0734	95.131	0.4796	0.4113	0.2749	0.5306	2452	93.9

22	00h03m40s	0.0863	23.998	2.071	95.178	0.4796	0.4115	0.2749	0.5307	2453	93.9
23	00h03m50s	0.0863	23.998	2.071	95.08	0.4797	0.4114	0.275	0.5307	2451	93.9
24	00h04m00s	0.0863	23.998	2.071	95.139	0.4795	0.4114	0.2749	0.5306	2453	93.9
25	00h04m10s	0.0863	23.998	2.071	95.1	0.4795	0.4112	0.275	0.5305	2452	93.8
26	00h04m20s	0.0863	23.998	2.071	95.132	0.4797	0.4114	0.275	0.5307	2452	93.8
27	00h04m30s	0.0863	23.998	2.071	95.11	0.4795	0.4113	0.2749	0.5306	2453	93.8
28	00h04m40s	0.0863	23.998	2.071	95.038	0.4794	0.4112	0.2749	0.5305	2453	93.9
29	00h04m50s	0.0863	23.998	2.071	95.025	0.4794	0.4112	0.2749	0.5305	2453	93.8
30	00h05m00s	0.0863	23.998	2.071	95.079	0.4796	0.4116	0.2749	0.5307	2453	93.9
31	00h05m10s	0.0863	23.998	2.071	94.992	0.4797	0.4115	0.275	0.5307	2451	93.8
32	00h05m20s	0.0863	23.998	2.071	94.949	0.4797	0.4113	0.275	0.5306	2451	93.8
33	00h05m30s	0.0863	23.998	2.071	95.006	0.4798	0.4115	0.275	0.5307	2451	93.8
34	00h05m40s	0.0863	23.998	2.071	94.957	0.4796	0.4113	0.275	0.5306	2452	93.8
35	00h05m50s	0.0863	23.998	2.071	94.978	0.4795	0.4114	0.2749	0.5306	2454	93.8
36	00h06m00s	0.0863	23.998	2.071	94.988	0.4796	0.4114	0.2749	0.5307	2452	93.8
37	00h06m10s	0.0863	23.998	2.071	94.922	0.4796	0.4111	0.2751	0.5305	2450	93.8
38	00h06m20s	0.0863	23.998	2.071	94.958	0.4796	0.4113	0.275	0.5306	2451	93.8
39	00h06m30s	0.0863	23.998	2.071	94.931	0.4796	0.4113	0.275	0.5306	2451	93.8
40	00h06m40s	0.0863	23.998	2.071	94.931	0.4795	0.4112	0.2749	0.5306	2452	93.8
41	00h06m50s	0.0863	23.998	2.071	94.932	0.4794	0.4111	0.275	0.5305	2452	93.8
42	00h07m00s	0.0863	23.998	2.071	94.997	0.4797	0.4114	0.275	0.5307	2452	93.8
43	00h07m10s	0.0863	23.998	2.071	94.908	0.4796	0.4113	0.275	0.5306	2452	93.8
44	00h07m20s	0.0863	23.998	2.071	94.877	0.4796	0.4112	0.2751	0.5306	2450	93.8
45	00h07m30s	0.0863	23.998	2.071	94.9	0.4797	0.4114	0.275	0.5306	2451	93.8
46	00h07m40s	0.0863	23.998	2.071	94.97	0.4796	0.4115	0.2749	0.5307	2452	93.8
47	00h07m50s	0.0863	23.998	2.071	94.897	0.4795	0.4113	0.2749	0.5306	2453	93.9
48	00h08m00s	0.0863	23.998	2.071	94.859	0.4797	0.4113	0.2751	0.5306	2450	93.8
49	00h08m10s	0.0863	23.998	2.071	94.831	0.4796	0.4112	0.275	0.5306	2451	93.8
50	00h08m20s	0.0863	23.998	2.071	94.858	0.4795	0.4112	0.275	0.5305	2452	93.8
51	00h08m30s	0.0863	23.998	2.071	94.853	0.4796	0.4113	0.275	0.5306	2451	93.8
52	00h08m40s	0.0863	23.998	2.071	94.861	0.4796	0.4113	0.275	0.5306	2451	93.8

53	00h08m50s	0.0863	23.998	2.071	94.902	0.4794	0.4113	0.2749	0.5306	2454	93.9
54	00h09m00s	0.0863	23.998	2.071	94.805	0.4796	0.4113	0.275	0.5306	2451	93.8
55	00h09m10s	0.0863	23.998	2.071	94.865	0.4795	0.4111	0.275	0.5305	2451	93.8
56	00h09m20s	0.0863	23.998	2.071	94.854	0.4795	0.4112	0.275	0.5305	2451	93.8
57	00h09m30s	0.0863	23.998	2.071	94.847	0.4796	0.4113	0.275	0.5306	2451	93.8
58	00h09m40s	0.0863	23.998	2.071	94.851	0.4795	0.4114	0.2749	0.5306	2453	93.9
59	00h09m50s	0.0863	23.998	2.071	94.869	0.4796	0.4112	0.275	0.5306	2451	93.8
60	00h10m00s	0.0863	23.998	2.071	94.806	0.4795	0.4111	0.275	0.5305	2451	93.8
61	00h10m10s	0.0863	23.998	2.071	94.844	0.4796	0.4111	0.2751	0.5305	2450	93.8
62	00h10m20s	0.0863	23.998	2.071	94.761	0.4796	0.4112	0.275	0.5306	2450	93.8
63	00h10m30s	0.0863	23.998	2.071	94.823	0.4795	0.4114	0.2749	0.5306	2453	93.8
64	00h10m40s	0.0863	23.998	2.071	94.873	0.4795	0.4112	0.275	0.5305	2451	93.8
65	00h10m50s	0.0863	23.998	2.071	94.814	0.4797	0.4114	0.275	0.5306	2451	93.8
66	00h11m00s	0.0863	23.998	2.071	94.794	0.4796	0.4112	0.275	0.5306	2451	93.9
67	00h11m10s	0.0863	23.998	2.071	94.834	0.4798	0.4113	0.2751	0.5306	2449	93.8
68	00h11m20s	0.0863	23.998	2.071	94.842	0.4795	0.4112	0.2749	0.5306	2452	93.8
69	00h11m30s	0.0863	23.998	2.071	94.838	0.4795	0.4112	0.275	0.5306	2452	93.8
70	00h11m40s	0.0863	23.998	2.071	94.781	0.4797	0.4113	0.2751	0.5306	2450	93.8
71	00h11m50s	0.0863	23.998	2.071	94.759	0.4795	0.4112	0.275	0.5305	2452	93.8
72	00h12m00s	0.0863	23.998	2.071	94.767	0.4797	0.4113	0.2751	0.5306	2450	93.8
73	00h12m10s	0.0863	23.998	2.071	94.808	0.4796	0.4112	0.275	0.5306	2451	93.8
74	00h12m20s	0.0863	23.998	2.071	94.769	0.4795	0.4113	0.2749	0.5306	2452	93.9
75	00h12m30s	0.0863	23.998	2.071	94.692	0.4796	0.4113	0.275	0.5306	2451	93.9
76	00h12m40s	0.0862	23.998	2.0686	94.828	0.4796	0.4113	0.275	0.5306	2451	93.8
77	00h12m50s	0.0863	23.998	2.071	94.764	0.4794	0.4111	0.2749	0.5305	2452	93.9
78	00h13m00s	0.0863	23.998	2.071	94.781	0.4794	0.4112	0.2749	0.5305	2453	93.8
79	00h13m10s	0.0863	23.998	2.071	94.765	0.4797	0.4114	0.275	0.5307	2451	93.8
80	00h13m20s	0.0862	23.998	2.0686	94.765	0.4795	0.4113	0.275	0.5306	2452	93.9
81	00h13m30s	0.0863	23.998	2.071	94.801	0.4794	0.4113	0.2749	0.5306	2454	93.8
82	00h13m40s	0.0862	23.998	2.0686	94.747	0.4797	0.4114	0.275	0.5306	2451	93.8
83	00h13m50s	0.0863	23.998	2.071	94.786	0.4795	0.4112	0.275	0.5306	2451	93.8

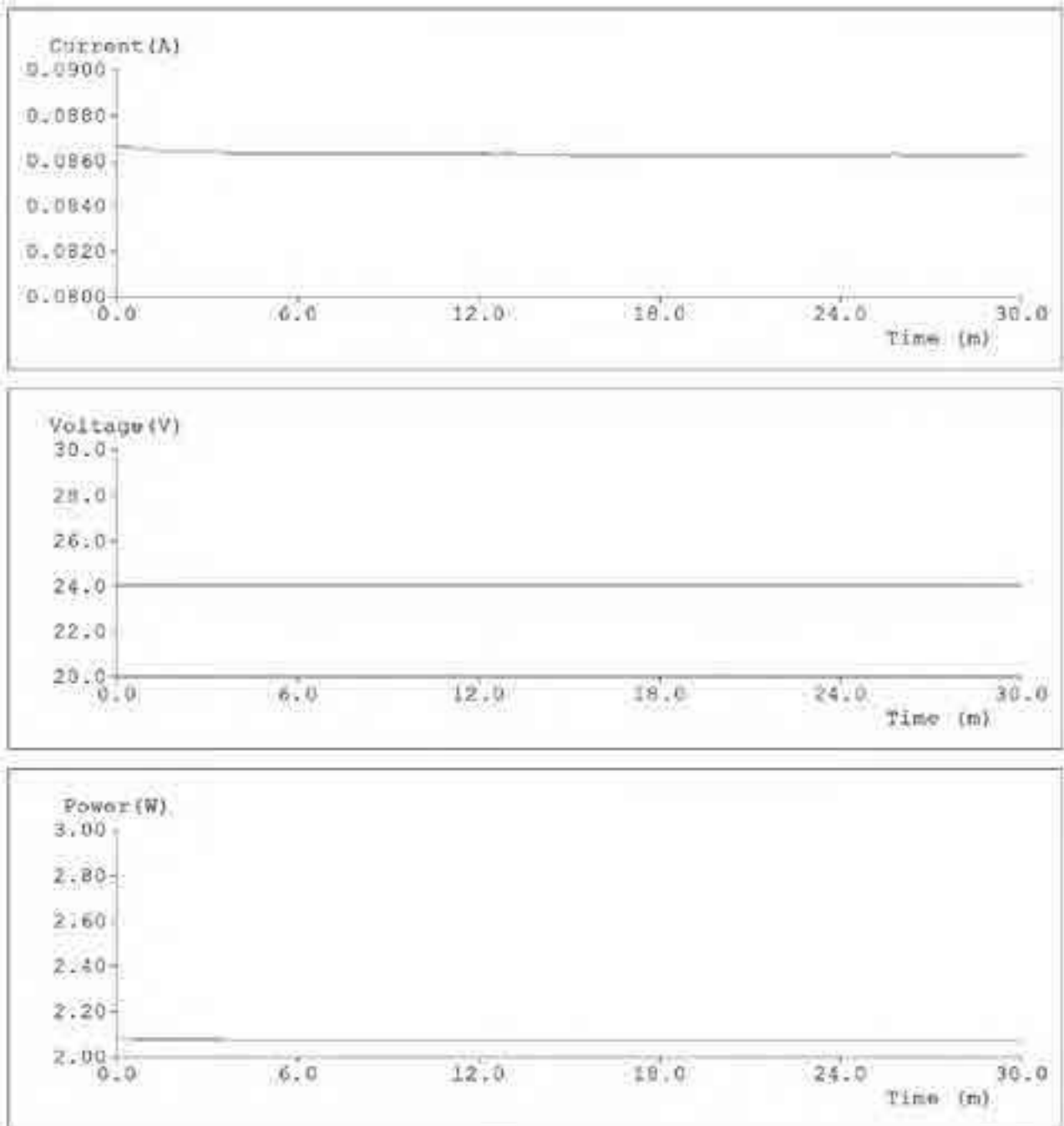
84	00h14m00s	0.0862	23.998	2.0686	94.749	0.4794	0.4111	0.2749	0.5305	2452	93.9
85	00h14m10s	0.0863	23.998	2.071	94.815	0.4795	0.4114	0.2749	0.5306	2453	93.8
86	00h14m20s	0.0862	23.998	2.0686	94.787	0.4795	0.4114	0.2749	0.5306	2453	93.9
87	00h14m30s	0.0863	23.998	2.071	94.734	0.4796	0.4112	0.275	0.5306	2451	93.8
88	00h14m40s	0.0862	23.998	2.0686	94.81	0.4796	0.4112	0.275	0.5306	2451	93.8
89	00h14m50s	0.0863	23.998	2.071	94.729	0.4796	0.4113	0.275	0.5306	2451	93.8
90	00h15m00s	0.0862	23.998	2.0686	94.795	0.4796	0.4112	0.275	0.5306	2450	93.8
91	00h15m10s	0.0862	23.998	2.0686	94.807	0.4796	0.4112	0.275	0.5306	2451	93.9
92	00h15m20s	0.0862	23.998	2.0686	94.749	0.4796	0.4111	0.275	0.5305	2450	93.8
93	00h15m30s	0.0862	23.998	2.0686	94.716	0.4795	0.4111	0.275	0.5305	2452	93.8
94	00h15m40s	0.0862	23.998	2.0686	94.77	0.4795	0.4113	0.2749	0.5306	2452	93.8
95	00h15m50s	0.0862	23.998	2.0686	94.768	0.4795	0.4114	0.2749	0.5306	2453	93.8
96	00h16m00s	0.0862	23.998	2.0686	94.786	0.4794	0.4113	0.2749	0.5306	2453	93.8
97	00h16m10s	0.0862	23.998	2.0686	94.864	0.4795	0.4113	0.2749	0.5306	2453	93.8
98	00h16m20s	0.0862	23.998	2.0686	94.729	0.4796	0.4111	0.2751	0.5305	2450	93.8
99	00h16m30s	0.0862	23.998	2.0686	94.726	0.4797	0.4113	0.275	0.5306	2450	93.9
100	00h16m40s	0.0862	23.998	2.0686	94.726	0.4796	0.4113	0.275	0.5306	2451	93.8
101	00h16m50s	0.0862	23.998	2.0686	94.814	0.4797	0.4113	0.2751	0.5306	2450	93.8
102	00h17m00s	0.0862	23.998	2.0686	94.764	0.4796	0.4112	0.275	0.5306	2451	93.8
103	00h17m10s	0.0862	23.998	2.0686	94.741	0.4795	0.4111	0.275	0.5305	2451	93.8
104	00h17m20s	0.0862	23.998	2.0686	94.812	0.4794	0.4111	0.2749	0.5305	2452	93.8
105	00h17m30s	0.0862	23.998	2.0686	94.744	0.4797	0.4113	0.2751	0.5306	2450	93.8
106	00h17m40s	0.0862	23.998	2.0686	94.79	0.4796	0.4112	0.2751	0.5306	2450	93.8
107	00h17m50s	0.0862	23.998	2.0686	94.717	0.4795	0.4111	0.275	0.5305	2451	93.8
108	00h18m00s	0.0862	23.998	2.0686	94.767	0.4796	0.4111	0.2751	0.5305	2450	93.8
109	00h18m10s	0.0862	23.998	2.0686	94.777	0.4796	0.4113	0.275	0.5306	2451	93.9
110	00h18m20s	0.0862	23.998	2.0686	94.734	0.4795	0.4113	0.275	0.5306	2452	93.8
111	00h18m30s	0.0862	23.998	2.0686	94.743	0.4796	0.4111	0.2751	0.5305	2450	93.8
112	00h18m40s	0.0862	23.998	2.0686	94.703	0.4795	0.4111	0.275	0.5305	2451	93.8
113	00h18m50s	0.0862	23.998	2.0686	94.8	0.4795	0.4112	0.275	0.5306	2452	93.8
114	00h19m00s	0.0862	23.998	2.0686	94.794	0.4796	0.4112	0.275	0.5306	2451	93.8

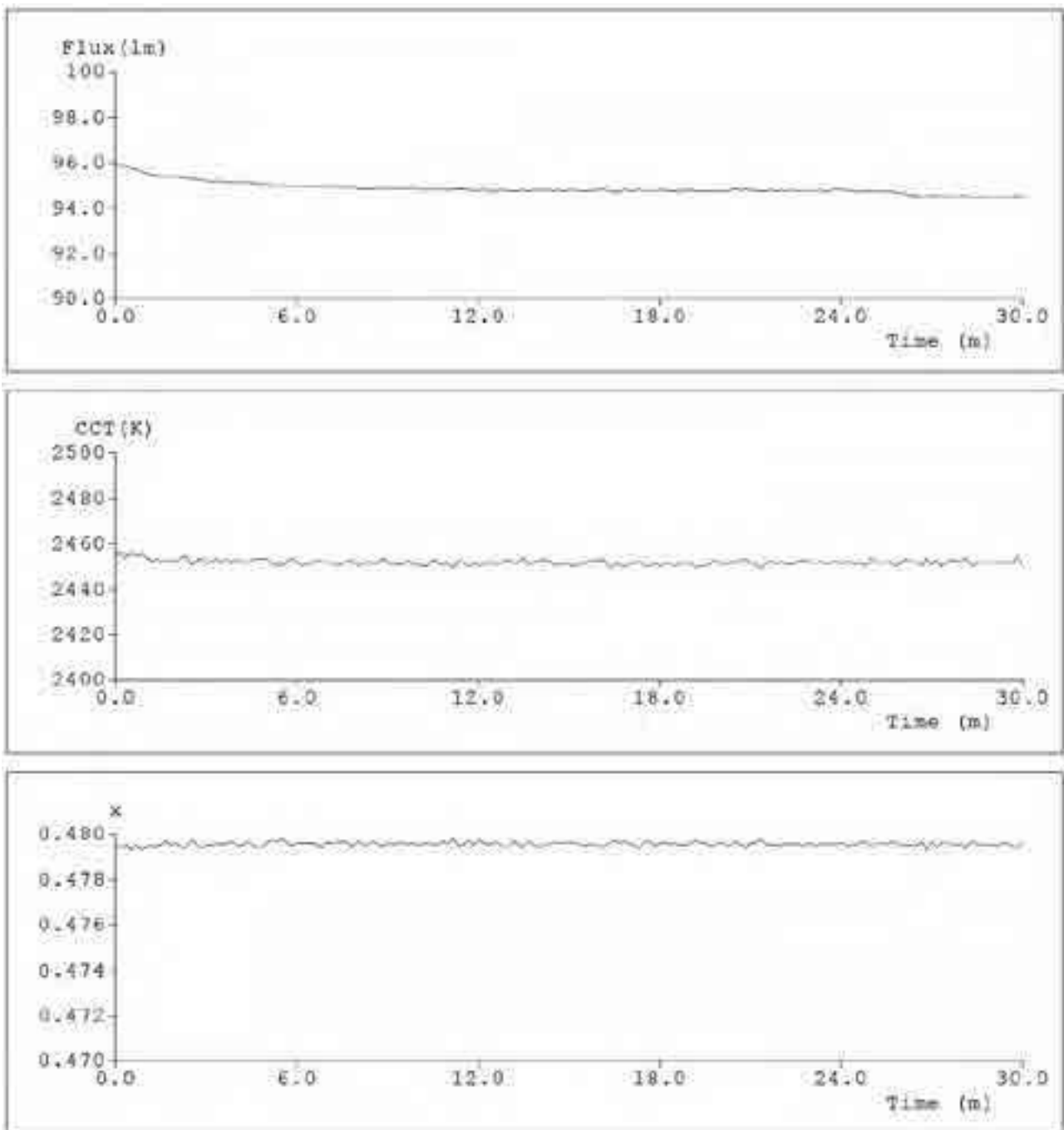
115	00h19m10s	0.0862	23.998	2.0686	94.732	0.4797	0.4113	0.2751	0.5306	2450	93.8
116	00h19m20s	0.0862	23.998	2.0686	94.723	0.4796	0.4111	0.2751	0.5305	2450	93.8
117	00h19m30s	0.0862	23.998	2.0686	94.759	0.4796	0.4112	0.275	0.5306	2450	93.8
118	00h19m40s	0.0862	23.998	2.0686	94.761	0.4795	0.411	0.275	0.5305	2451	93.8
119	00h19m50s	0.0862	23.998	2.0686	94.718	0.4795	0.4113	0.2749	0.5306	2453	93.8
120	00h20m00s	0.0862	23.998	2.0686	94.753	0.4796	0.4113	0.275	0.5306	2451	93.8
121	00h20m10s	0.0862	23.998	2.0686	94.727	0.4796	0.4111	0.275	0.5305	2451	93.8
122	00h20m20s	0.0862	23.998	2.0686	94.783	0.4795	0.4112	0.2749	0.5306	2452	93.8
123	00h20m30s	0.0862	23.998	2.0686	94.856	0.4797	0.4114	0.275	0.5307	2451	93.8
124	00h20m40s	0.0862	23.998	2.0686	94.761	0.4795	0.4113	0.2749	0.5306	2452	93.8
125	00h20m50s	0.0862	23.998	2.0686	94.859	0.4794	0.4113	0.2749	0.5306	2454	93.8
126	00h21m00s	0.0862	23.998	2.0686	94.783	0.4796	0.4113	0.275	0.5306	2451	93.8
127	00h21m10s	0.0862	23.998	2.0686	94.788	0.4796	0.4113	0.275	0.5306	2451	93.8
128	00h21m20s	0.0862	23.998	2.0686	94.728	0.4798	0.4112	0.2751	0.5306	2449	93.9
129	00h21m30s	0.0862	23.998	2.0686	94.747	0.4796	0.4112	0.275	0.5306	2451	93.8
130	00h21m40s	0.0862	23.998	2.0686	94.817	0.4795	0.4113	0.2749	0.5306	2453	93.9
131	00h21m50s	0.0862	23.998	2.0686	94.73	0.4795	0.4112	0.275	0.5305	2451	93.8
132	00h22m00s	0.0862	23.998	2.0686	94.776	0.4795	0.4112	0.2749	0.5306	2452	93.8
133	00h22m10s	0.0862	23.998	2.0686	94.734	0.4796	0.4112	0.275	0.5306	2451	93.9
134	00h22m20s	0.0862	23.998	2.0686	94.806	0.4796	0.4112	0.275	0.5306	2451	93.8
135	00h22m30s	0.0862	23.998	2.0686	94.76	0.4796	0.4112	0.275	0.5306	2451	93.8
136	00h22m40s	0.0862	23.998	2.0686	94.751	0.4795	0.4113	0.2749	0.5306	2453	93.8
137	00h22m50s	0.0862	23.998	2.0686	94.774	0.4796	0.4114	0.2749	0.5306	2452	93.8
138	00h23m00s	0.0862	23.998	2.0686	94.766	0.4795	0.4112	0.275	0.5306	2452	93.8
139	00h23m10s	0.0862	23.998	2.0686	94.72	0.4795	0.4111	0.275	0.5305	2452	93.9
140	00h23m20s	0.0862	23.998	2.0686	94.799	0.4796	0.4114	0.2749	0.5306	2452	93.9
141	00h23m30s	0.0862	23.998	2.0686	94.696	0.4795	0.4112	0.275	0.5305	2451	93.9
142	00h23m40s	0.0862	23.998	2.0686	94.793	0.4796	0.4113	0.275	0.5306	2452	93.9
143	00h23m50s	0.0862	23.998	2.0686	94.862	0.4795	0.4114	0.2749	0.5306	2453	93.8
144	00h24m00s	0.0862	23.998	2.0686	94.761	0.4796	0.4112	0.275	0.5306	2451	93.8
145	00h24m10s	0.0862	23.998	2.0686	94.791	0.4795	0.4111	0.275	0.5305	2452	93.8

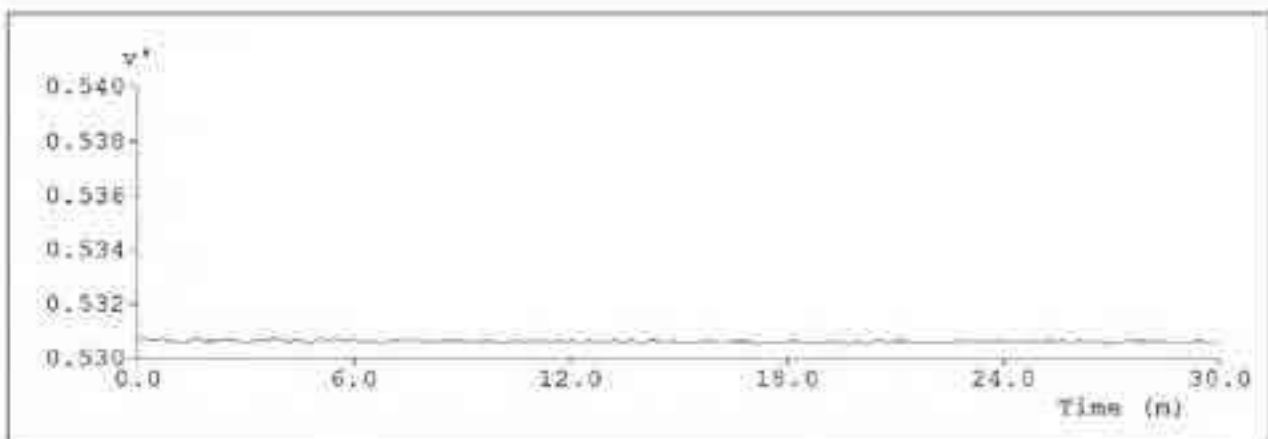
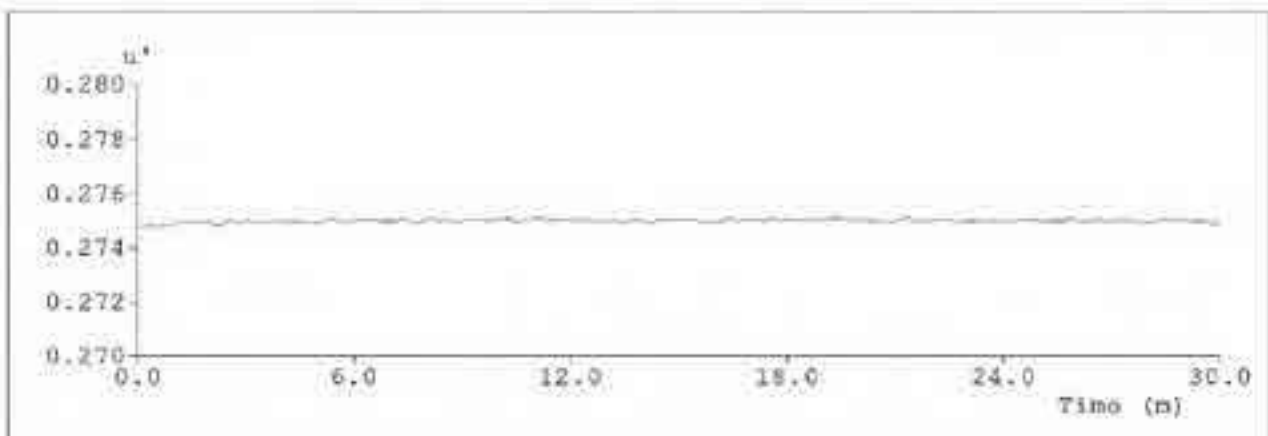
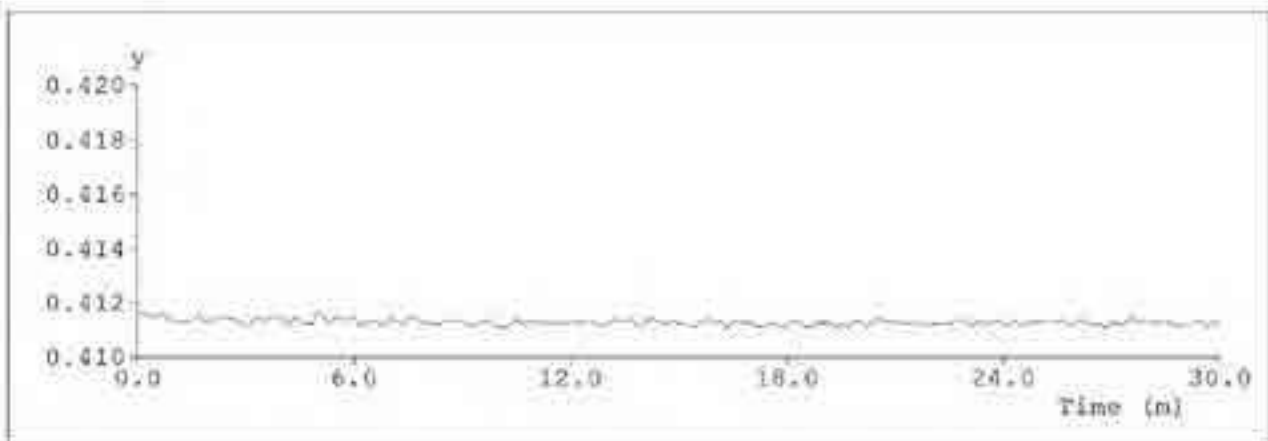
146	00h24m20s	0.0862	23.998	2.0686	94.778	0.4795	0.4113	0.2749	0.5306	2452	93.8
147	00h24m30s	0.0862	23.998	2.0686	94.689	0.4795	0.4111	0.275	0.5305	2451	93.8
148	00h24m40s	0.0862	23.998	2.0686	94.731	0.4796	0.4113	0.275	0.5306	2451	93.8
149	00h24m50s	0.0862	23.998	2.0686	94.756	0.4797	0.4113	0.2751	0.5306	2450	93.9
150	00h25m00s	0.0862	23.998	2.0686	94.73	0.4794	0.4113	0.2749	0.5306	2453	93.9
151	00h25m10s	0.0862	23.998	2.0686	94.752	0.4796	0.4113	0.275	0.5306	2452	93.8
152	00h25m20s	0.0862	23.998	2.0686	94.697	0.4796	0.4113	0.275	0.5306	2452	93.9
153	00h25m30s	0.0862	23.998	2.0686	94.715	0.4796	0.4113	0.275	0.5306	2452	93.8
154	00h25m40s	0.0862	23.998	2.0686	94.728	0.4796	0.4114	0.275	0.5306	2451	93.9
155	00h25m50s	0.0863	23.998	2.071	94.649	0.4796	0.4111	0.2751	0.5305	2450	93.8
156	00h26m00s	0.0862	23.998	2.0686	94.689	0.4795	0.4113	0.2749	0.5306	2452	93.9
157	00h26m10s	0.0862	23.998	2.0686	94.588	0.4795	0.4114	0.2749	0.5306	2453	93.9
158	00h26m20s	0.0862	23.998	2.0686	94.524	0.4795	0.4112	0.275	0.5305	2452	93.8
159	00h26m30s	0.0862	23.998	2.0686	94.536	0.4794	0.4112	0.2749	0.5305	2452	93.8
160	00h26m40s	0.0862	23.998	2.0686	94.514	0.4797	0.4112	0.2751	0.5306	2450	93.8
161	00h26m50s	0.0862	23.998	2.0686	94.473	0.4793	0.411	0.2749	0.5305	2453	93.8
162	00h27m00s	0.0862	23.998	2.0686	94.569	0.4796	0.4113	0.275	0.5306	2451	93.8
163	00h27m10s	0.0862	23.998	2.0686	94.501	0.4794	0.4112	0.2749	0.5306	2453	93.8
164	00h27m20s	0.0862	23.998	2.0686	94.522	0.4796	0.4111	0.2751	0.5305	2450	93.8
165	00h27m30s	0.0862	23.998	2.0686	94.501	0.4796	0.4114	0.2749	0.5306	2452	93.8
166	00h27m40s	0.0862	23.998	2.0686	94.489	0.4795	0.4113	0.2749	0.5306	2453	93.9
167	00h27m50s	0.0862	23.998	2.0686	94.432	0.4795	0.4113	0.2749	0.5306	2452	93.9
168	00h28m00s	0.0862	23.998	2.0686	94.545	0.4795	0.4113	0.2749	0.5306	2453	93.8
169	00h28m10s	0.0862	23.998	2.0686	94.528	0.4794	0.4112	0.2749	0.5305	2454	93.9
170	00h28m20s	0.0862	23.998	2.0686	94.436	0.4797	0.4113	0.2751	0.5306	2450	93.8
171	00h28m30s	0.0862	23.998	2.0686	94.491	0.4796	0.4113	0.275	0.5306	2452	93.8
172	00h28m40s	0.0862	23.998	2.0686	94.505	0.4795	0.4112	0.275	0.5306	2452	93.8
173	00h28m50s	0.0862	23.998	2.0686	94.437	0.4795	0.4111	0.275	0.5305	2451	93.8
174	00h29m00s	0.0862	23.998	2.0686	94.474	0.4795	0.4112	0.275	0.5305	2452	93.8
175	00h29m10s	0.0862	23.998	2.0686	94.465	0.4795	0.4112	0.275	0.5305	2452	93.8
176	00h29m20s	0.0862	23.998	2.0686	94.522	0.4796	0.4113	0.275	0.5306	2451	93.8

177	00h29m30s	0.0862	23.998	2.0686	94.468	0.4796	0.4113	0.275	0.5306	2452	93.8
178	00h29m40s	0.0862	23.998	2.0686	94.481	0.4795	0.4111	0.275	0.5305	2451	93.8
179	00h29m50s	0.0862	23.998	2.0686	94.551	0.4793	0.4113	0.2748	0.5306	2455	93.9
180	00h30m00s	0.0862	23.998	2.0686	94.395	0.4796	0.4111	0.2751	0.5305	2450	93.8

Test curves

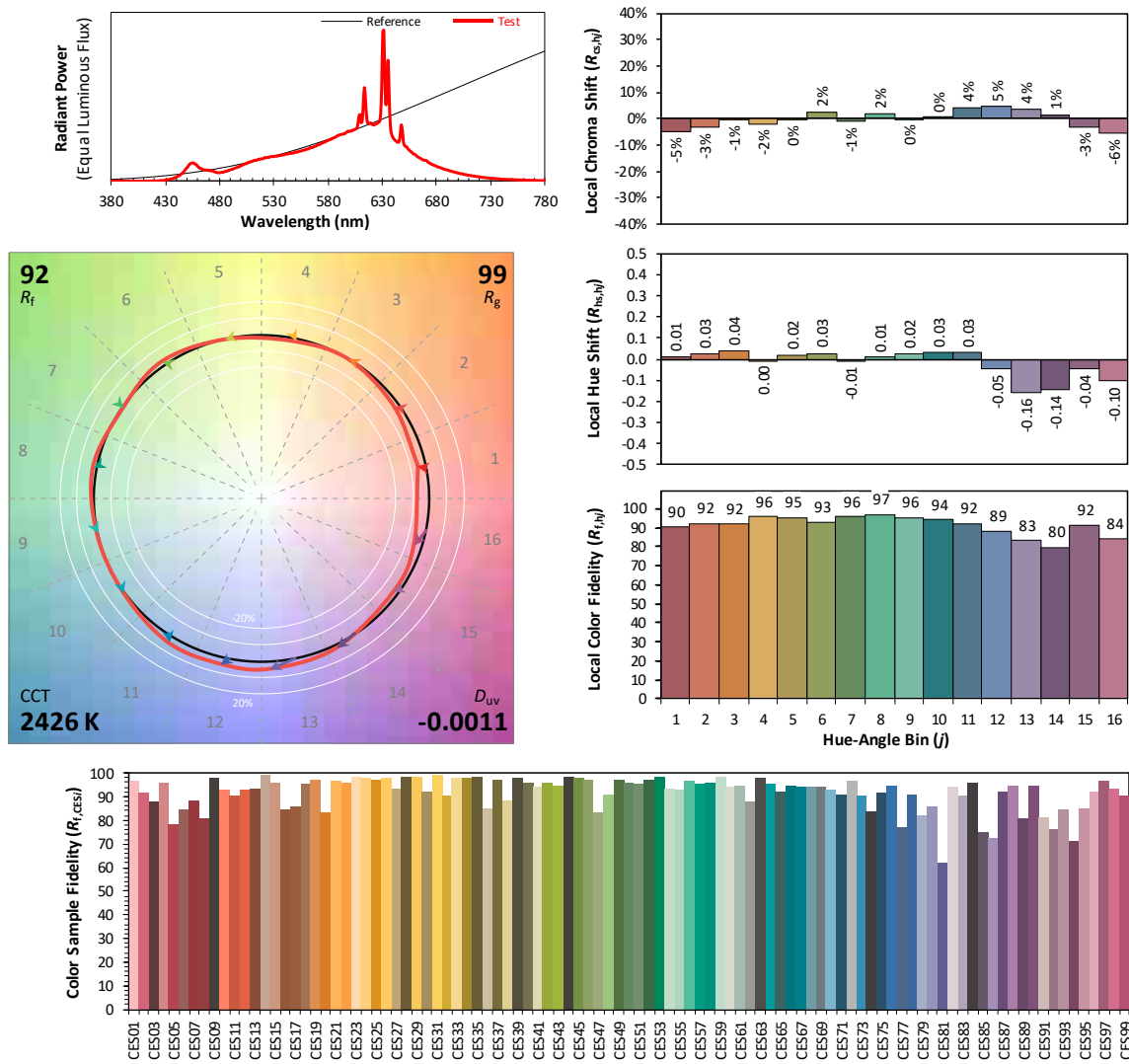






***5.2 ANSI/IES TM-30-18 Color Rendition Report**
ANSI/IES TM-30-18 Color Rendition Report

Source: Manufacturer:
Date: 2023/7/3 Model: LFUMAY-T1000WL-L27-DF-0-2 24V 2W/m



Notes: This is a recommended method for displaying ANSI/IES TM-30-18 information.

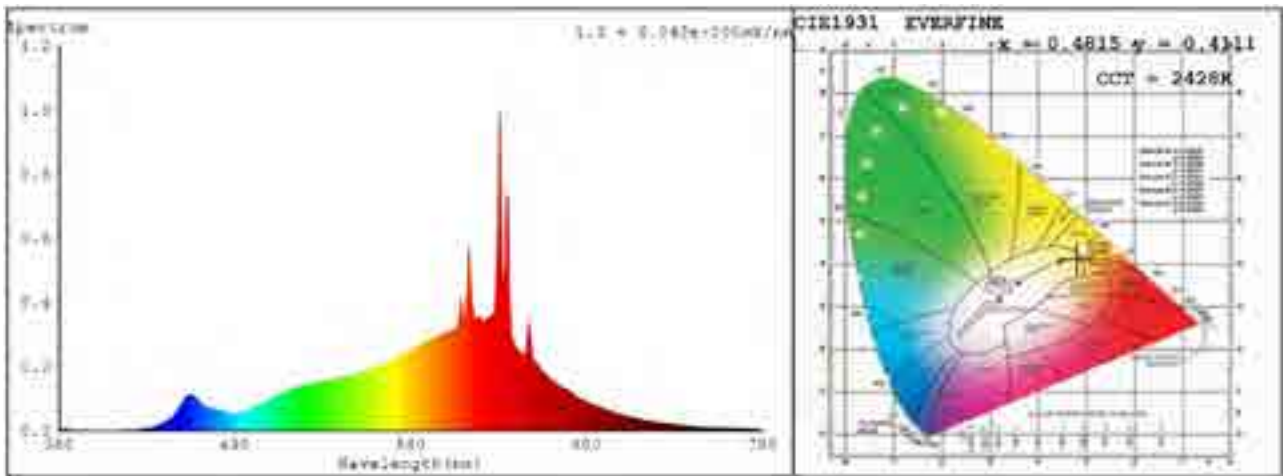
x	0.4815
y	0.4110
u'	0.2764
v'	0.5308

CIE 13.3-1995 (CRI)

R_a	94
R_9	57

Colors are for visual orientation purposes only. Created with the ANSI/IES TM-30-18 Calculator Version 2.00.

5.3 Relative Spectral Power Distribution



nm	mW	nm	mW	nm	mW	nm	mW	nm	mW
380	0.0016	414	0.0024	448	0.073	482	0.0559	516	0.1356
381	0	415	0.0011	449	0.0802	483	0.0566	517	0.1363
382	0	416	0.0012	450	0.0874	484	0.06	518	0.1384
383	0	417	0.003	451	0.097	485	0.0612	519	0.1373
384	0.005	418	0.003	452	0.1059	486	0.063	520	0.1406
385	0	419	0.0018	453	0.1095	487	0.0644	521	0.1453
386	0.0018	420	0.0027	454	0.112	488	0.0682	522	0.1435
387	0.0037	421	0.0025	455	0.113	489	0.0697	523	0.1458
388	0.0049	422	0.0034	456	0.1113	490	0.0732	524	0.1471
389	0.0014	423	0.0043	457	0.1056	491	0.0739	525	0.1463
390	0.0026	424	0.0039	458	0.1031	492	0.0756	526	0.1496
391	0.0011	425	0.0058	459	0.0941	493	0.0798	527	0.1515
392	0.0014	426	0.0058	460	0.0889	494	0.082	528	0.1519
393	0.0003	427	0.0052	461	0.0809	495	0.0838	529	0.1516
394	0.0008	428	0.0057	462	0.0802	496	0.087	530	0.1529
395	0	429	0.0076	463	0.0762	497	0.0889	531	0.1539
396	0.0036	430	0.009	464	0.0733	498	0.0916	532	0.1549
397	0.0011	431	0.0093	465	0.0707	499	0.0954	533	0.1544
398	0.0005	432	0.0109	466	0.0706	500	0.0986	534	0.1583
399	0.0002	433	0.0121	467	0.0698	501	0.1003	535	0.1582
400	0.0018	434	0.0137	468	0.0674	502	0.1051	536	0.1583
401	0.0001	435	0.0155	469	0.0692	503	0.1072	537	0.1613
402	0.001	436	0.0174	470	0.0672	504	0.1083	538	0.1618
403	0.0025	437	0.0193	471	0.0647	505	0.111	539	0.1621
404	0	438	0.022	472	0.0659	506	0.1157	540	0.1658
405	0.0001	439	0.0248	473	0.0635	507	0.1168	541	0.1661
406	0.0013	440	0.0277	474	0.0608	508	0.1203	542	0.168
407	0.001	441	0.0317	475	0.0591	509	0.1211	543	0.1691
408	0.0008	442	0.035	476	0.0558	510	0.1246	544	0.1699
409	0.001	443	0.0382	477	0.0546	511	0.1259	545	0.1712
410	0.0004	444	0.044	478	0.0534	512	0.1294	546	0.1716
411	0.0011	445	0.0494	479	0.0531	513	0.1286	547	0.173
412	0.0017	446	0.0555	480	0.0536	514	0.1306	548	0.1743
413	0.0008	447	0.0634	481	0.0552	515	0.1343	549	0.1763

nm	mW	nm	mW	nm	mW	nm	mW	nm	mW
550	0.1813	599	0.3044	648	0.3124	697	0.0549	746	0.0116
551	0.1787	600	0.3075	649	0.2431	698	0.0538	747	0.0114
552	0.1806	601	0.3071	650	0.2198	699	0.052	748	0.0114
553	0.1845	602	0.3114	651	0.2133	700	0.05	749	0.0112
554	0.1845	603	0.3137	652	0.2117	701	0.0489	750	0.011
555	0.187	604	0.3165	653	0.2	702	0.0472	751	0.0108
556	0.1894	605	0.3192	654	0.1944	703	0.0463	752	0.0104
557	0.1902	606	0.3243	655	0.1869	704	0.0449	753	0.0099
558	0.1916	607	0.3461	656	0.1817	705	0.043	754	0.0099
559	0.1958	608	0.3957	657	0.1766	706	0.0413	755	0.0091
560	0.196	609	0.407	658	0.1687	707	0.0412	756	0.0094
561	0.1983	610	0.3585	659	0.1665	708	0.0391	757	0.0088
562	0.2001	611	0.3657	660	0.1627	709	0.0378	758	0.0089
563	0.2059	612	0.4666	661	0.1567	710	0.0374	759	0.0086
564	0.2061	613	0.5719	662	0.1506	711	0.036	760	0.0086
565	0.2064	614	0.5047	663	0.1471	712	0.0352	761	0.0078
566	0.2099	615	0.4005	664	0.1432	713	0.0332	762	0.0075
567	0.2131	616	0.358	665	0.1397	714	0.0328	763	0.0075
568	0.2151	617	0.3517	666	0.1351	715	0.0319	764	0.0069
569	0.2176	618	0.3537	667	0.1319	716	0.03	765	0.0072
570	0.2225	619	0.3569	668	0.1298	717	0.0298	766	0.0069
571	0.2252	620	0.3498	669	0.1287	718	0.0289	767	0.0066
572	0.2257	621	0.3452	670	0.1279	719	0.0282	768	0.0065
573	0.231	622	0.3438	671	0.1234	720	0.0271	769	0.0065
574	0.2336	623	0.349	672	0.1154	721	0.0262	770	0.0063
575	0.2358	624	0.3513	673	0.1134	722	0.0249	771	0.0063
576	0.24	625	0.3543	674	0.1086	723	0.0243	772	0.006
577	0.2416	626	0.3617	675	0.1048	724	0.0238	773	0.0059
578	0.2462	627	0.3645	676	0.1018	725	0.023	774	0.0054
579	0.2483	628	0.4062	677	0.0995	726	0.0221	775	0.0054
580	0.2517	629	0.5778	678	0.0965	727	0.0219	776	0.0051
581	0.2553	630	0.9116	679	0.0944	728	0.0208	777	0.0051
582	0.2555	631	0.9209	680	0.0902	729	0.02	778	0.0052
583	0.26	632	0.5955	681	0.0877	730	0.0188	779	0.0053
584	0.2634	633	0.4668	682	0.0869	731	0.0189	780	0.0053
585	0.2669	634	0.6194	683	0.0836	732	0.0192		
586	0.2684	635	0.7357	684	0.0815	733	0.0176		
587	0.273	636	0.5031	685	0.0789	734	0.0171		
588	0.2778	637	0.3392	686	0.077	735	0.0166		
589	0.2801	638	0.2921	687	0.0735	736	0.0164		
590	0.2833	639	0.2731	688	0.0725	737	0.0153		
591	0.2854	640	0.261	689	0.0708	738	0.015		
592	0.2864	641	0.2532	690	0.0696	739	0.0145		
593	0.2884	642	0.2471	691	0.0665	740	0.0136		
594	0.2904	643	0.2418	692	0.0645	741	0.0128		
595	0.2912	644	0.2378	693	0.0629	742	0.0134		
596	0.2973	645	0.2437	694	0.0602	743	0.0129		
597	0.3027	646	0.2801	695	0.0593	744	0.0126		
598	0.3066	647	0.3441	696	0.0574	745	0.0122		

6. Goniophotometer Test results

6.1 Test Data

Test Ambient Temperature	25.2°C	Test orientation	Downward
Operate time(Min.)	90	stabilization time(Min.)	30

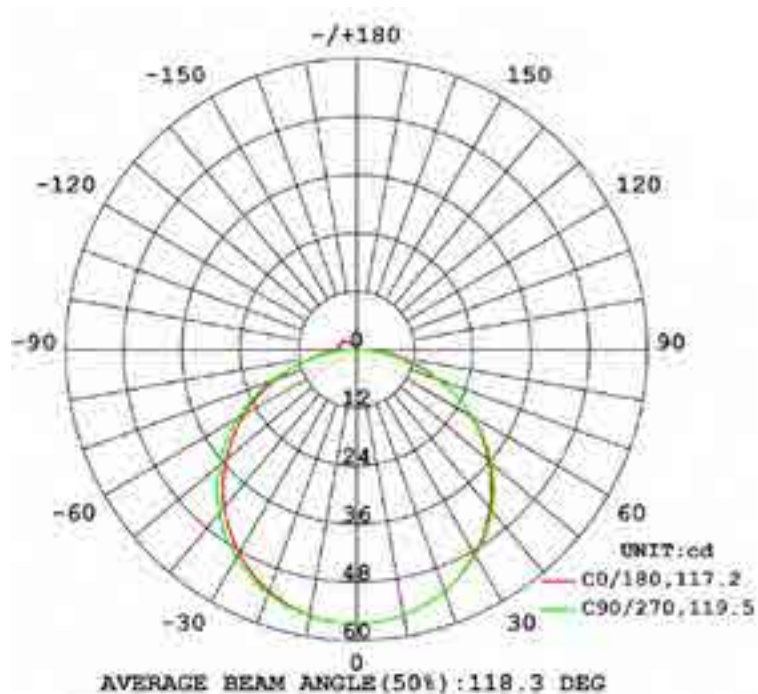
Electrical Measurement

Input Voltage (V)	Frequency (Hz)	Input Current(A)	Power Factor	Power(W)
24	--	0.086	1.0000	2.064

Optical Measurement

Luminous Flux (lm)	Efficacy(lm/W)	Imax (cd)	η up (%)	η down (%)
87.9322	42.60	27.39	2.6	97.4

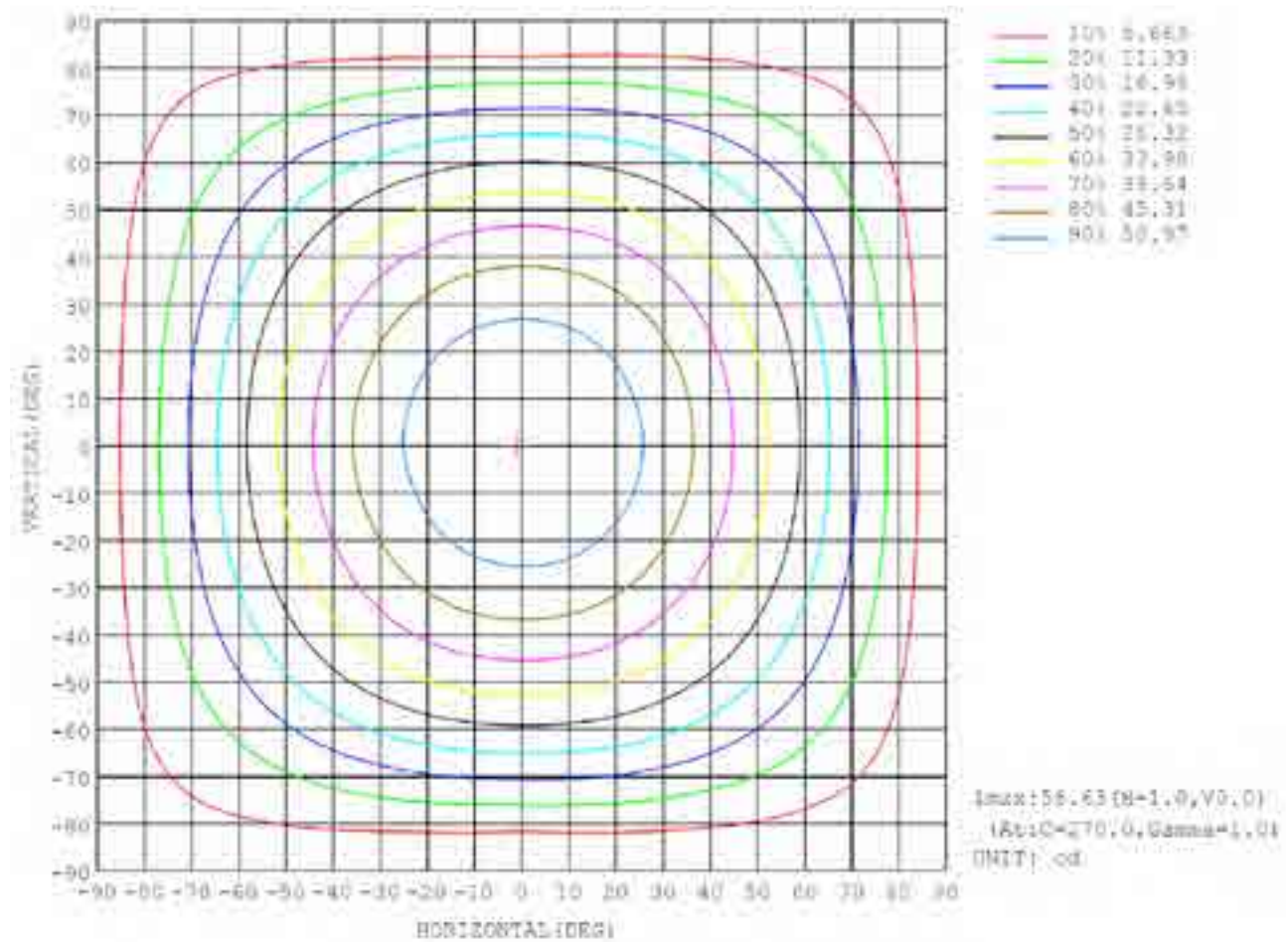
6.2 Luminous Intensity Distribution



6.3 Zonal Flux Diagram

z	20	40	60	80	100	120	140	160	180	z	200	220	240	260	280
20	55.72	55.87	55.92	55.93	55.94	55.95	55.96	55.97	55.98	20	55.99	56.00	56.01	56.02	56.03
40	55.25	55.30	55.35	55.40	55.45	55.50	55.55	55.60	55.65	40	55.70	55.75	55.80	55.85	55.90
60	55.18	55.23	55.28	55.33	55.38	55.43	55.48	55.53	55.58	60	55.63	55.68	55.73	55.78	55.83
80	55.10	55.15	55.20	55.25	55.30	55.35	55.40	55.45	55.50	80	55.55	55.60	55.65	55.70	55.75
100	55.02	55.07	55.12	55.17	55.22	55.27	55.32	55.37	55.42	100	55.47	55.52	55.57	55.62	55.67
120	54.94	54.99	55.04	55.09	55.14	55.19	55.24	55.29	55.34	120	55.39	55.44	55.49	55.54	55.59
140	54.86	54.91	54.96	55.01	55.06	55.11	55.16	55.21	55.26	140	55.31	55.36	55.41	55.46	55.51
160	54.78	54.83	54.88	54.93	54.98	55.03	55.08	55.13	55.18	160	55.23	55.28	55.33	55.38	55.43
180	54.70	54.75	54.80	54.85	54.90	54.95	55.00	55.05	55.10	180	55.15	55.20	55.25	55.30	55.35
200	54.62	54.67	54.72	54.77	54.82	54.87	54.92	54.97	55.02	200	55.07	55.12	55.17	55.22	55.27
220	54.54	54.59	54.64	54.69	54.74	54.79	54.84	54.89	54.94	220	55.00	55.05	55.10	55.15	55.20
240	54.46	54.51	54.56	54.61	54.66	54.71	54.76	54.81	54.86	240	54.93	54.98	55.03	55.08	55.13
260	54.38	54.43	54.48	54.53	54.58	54.63	54.68	54.73	54.78	260	54.85	54.90	54.95	55.00	55.05
280	54.30	54.35	54.40	54.45	54.50	54.55	54.60	54.65	54.70	280	54.77	54.82	54.87	54.92	54.97
300	54.22	54.27	54.32	54.37	54.42	54.47	54.52	54.57	54.62	300	54.69	54.74	54.79	54.84	54.89
320	54.14	54.19	54.24	54.29	54.34	54.39	54.44	54.49	54.54	320	54.61	54.66	54.71	54.76	54.81
340	54.06	54.11	54.16	54.21	54.26	54.31	54.36	54.41	54.46	340	54.53	54.58	54.63	54.68	54.73
360	53.98	54.03	54.08	54.13	54.18	54.23	54.28	54.33	54.38	360	54.45	54.50	54.55	54.60	54.65
380	53.90	53.95	54.00	54.05	54.10	54.15	54.20	54.25	54.30	380	54.37	54.42	54.47	54.52	54.57
400	53.82	53.87	53.92	53.97	54.02	54.07	54.12	54.17	54.22	400	54.29	54.34	54.39	54.44	54.49
420	53.74	53.79	53.84	53.89	53.94	53.99	54.04	54.09	54.14	420	54.21	54.26	54.31	54.36	54.41
440	53.66	53.71	53.76	53.81	53.86	53.91	53.96	54.01	54.06	440	54.13	54.18	54.23	54.28	54.33
460	53.58	53.63	53.68	53.73	53.78	53.83	53.88	53.93	53.98	460	54.05	54.10	54.15	54.20	54.25
480	53.50	53.55	53.60	53.65	53.70	53.75	53.80	53.85	53.90	480	53.97	54.02	54.07	54.12	54.17
500	53.42	53.47	53.52	53.57	53.62	53.67	53.72	53.77	53.82	500	53.89	53.94	53.99	54.04	54.09
520	53.34	53.39	53.44	53.49	53.54	53.59	53.64	53.69	53.74	520	53.81	53.86	53.91	53.96	54.01
540	53.26	53.31	53.36	53.41	53.46	53.51	53.56	53.61	53.66	540	53.73	53.78	53.83	53.88	53.93
560	53.18	53.23	53.28	53.33	53.38	53.43	53.48	53.53	53.58	560	53.65	53.70	53.75	53.80	53.85
580	53.10	53.15	53.20	53.25	53.30	53.35	53.40	53.45	53.50	580	53.57	53.62	53.67	53.72	53.77
600	53.02	53.07	53.12	53.17	53.22	53.27	53.32	53.37	53.42	600	53.49	53.54	53.59	53.64	53.69
620	52.94	52.99	53.04	53.09	53.14	53.19	53.24	53.29	53.34	620	53.41	53.46	53.51	53.56	53.61
640	52.86	52.91	52.96	53.01	53.06	53.11	53.16	53.21	53.26	640	53.33	53.38	53.43	53.48	53.53
660	52.78	52.83	52.88	52.93	52.98	53.03	53.08	53.13	53.18	660	53.25	53.30	53.35	53.40	53.45
680	52.70	52.75	52.80	52.85	52.90	52.95	53.00	53.05	53.10	680	53.17	53.22	53.27	53.32	53.37
700	52.62	52.67	52.72	52.77	52.82	52.87	52.92	52.97	53.02	700	53.09	53.14	53.19	53.24	53.29
720	52.54	52.59	52.64	52.69	52.74	52.79	52.84	52.89	52.94	720	53.01	53.06	53.11	53.16	53.21
740	52.46	52.51	52.56	52.61	52.66	52.71	52.76	52.81	52.86	740	52.93	52.98	53.03	53.08	53.13
760	52.38	52.43	52.48	52.53	52.58	52.63	52.68	52.73	52.78	760	52.85	52.90	52.95	53.00	53.05
780	52.30	52.35	52.40	52.45	52.50	52.55	52.60	52.65	52.70	780	52.77	52.82	52.87	52.92	52.97
800	52.22	52.27	52.32	52.37	52.42	52.47	52.52	52.57	52.62	800	52.69	52.74	52.79	52.84	52.89
820	52.14	52.19	52.24	52.29	52.34	52.39	52.44	52.49	52.54	820	52.61	52.66	52.71	52.76	52.81
840	52.06	52.11	52.16	52.21	52.26	52.31	52.36	52.41	52.46	840	52.53	52.58	52.63	52.68	52.73
860	51.98	52.03	52.08	52.13	52.18	52.23	52.28	52.33	52.38	860	52.45	52.50	52.55	52.60	52.65
880	51.90	51.95	52.00	52.05	52.10	52.15	52.20	52.25	52.30	880	52.37	52.42	52.47	52.52	52.57
900	51.82	51.87	51.92	51.97	52.02	52.07	52.12	52.17	52.22	900	52.29	52.34	52.39	52.44	52.49
920	51.74	51.79	51.84	51.89	51.94	51.99	52.04	52.09	52.14	920	52.21	52.26	52.31	52.36	52.41
940	51.66	51.71	51.76	51.81	51.86	51.91	51.96	52.01	52.06	940	52.13	52.18	52.23	52.28	52.33
960	51.58	51.63	51.68	51.73	51.78	51.83	51.88	51.93	51.98	960	52.05	52.10	52.15	52.20	52.25
980	51.50	51.55	51.60	51.65	51.70	51.75	51.80	51.85	51.90	980	51.97	52.02	52.07	52.12	52.17
1000	51.42	51.47	51.52	51.57	51.62	51.67	51.72	51.77	51.82	1000	51.89	51.94	51.99	52.04	52.09
1020	51.34	51.39	51.44	51.49	51.54	51.59	51.64	51.69	51.74	1020	51.81	51.86	51.91	51.96	52.01
1040	51.26	51.31	51.36	51.41	51.46	51.51	51.56	51.61	51.66	1040	51.73	51.78	51.83	51.88	51.93
1060	51.18	51.23	51.28	51.33	51.38	51.43	51.48	51.53	51.58	1060	51.65	51.70	51.75	51.80	51.85
1080	51.10	51.15	51.20	51.25	51.30	51.35	51.40	51.45	51.50	1080	51.57	51.62	51.67	51.72	51.77
1100	51.02	51.07	51.12	51.17	51.22	51.27	51.32	51.37	51.42	1100	51.49	51.54	51.59	51.64	51.69
1120	50.94	50.99	51.04	51.09	51.14	51.19	51.24	51.29	51.34	1120	51.41	51.46	51.51	51.56	51.61
1140	50.86	50.91	50.96	51.01	51.06	51.11	51.16	51.21	51.26	1140	51.33	51.38	51.43	51.48	51.53
1160	50.78	50.83	50.88	50.93	50.98	51.03	51.08	51.13	51.18	1160	51.25	51.30	51.35	51.40	51.45
1180	50.70	50.75	50.80	50.85	50.90	50.95	51.00	51.05	51.10	1180	51.17	51.22	51.27	51.32	51.37
1200	50.62	50.67	50.72	50.77	50.82	50.87	50.92	50.97	51.02	1200	51.09	51.14	51.19	51.24	51.29
1220	50.54	50.59	50.64	50.69	50.74	50.79	50.84	50.89	50.94	1220	51.01	51.06	51.11	51.16	51.21
1240	50.46	50.51	50.56	50.61	50.66	50.71	50.76	50.81	50.86	1240	50.93	50.98	51.03	51.08	51.13
1260	50.38	50.43	50.48	50.53	50.58	50.63	50.68	50.73	50.78	1260	50.85	50.90	50.95	51.00	51.05
1280	50.30	50.35	50.40	50.45	50.50	50.55	50.60	50.65	50.70	1280	50.77	50.82	50.87	50.92	50.97
1300	50.22	50.27	50.32	50.37	50.42	50.47	50.52	50.57	50.62	1300	50.69	50.74	50.79	50.84	50.89
1320	50.14	50.19	50.24	50.29	50.34	50.39	50.44	50.49	50.54	1320	50.61	50.66	50.71	50.76	50.81
1340	50.06	50.11	50.16	50.21	50.26	50.31	50.36	50.41	50.46	1340	50.53	50.58	50.63	50.68	50.73
1360	49.98	50.03	50.08	50.13	50.18	50.23	50.28	50.33	50.38	1360	50.45	50.50	50.55	50.60	50.65
1380	49.90	49.95	50.00	50.05	50.10	50.15	50.20	50.25	50.30	1380	50.37	50.42	50.47	50.52	50.57
1400	49.82	49.87	49.92	49.97	50.02	50.07	50.12	50.17	50.22	1400	50.29	50.34	50.39	50.44	50.49
1420	49.74	49.79	49.84	49.89	49.94	49.99	50.04	50.09	50.14	1420	50.21	50.26	50.31	50.36	50.41
1440	49.66	49.71	49.76	49.81	49.86	49.91	49.96	50.01	50.06	1440	50.13	50.18	50.23	50.28	50.33
1460	49.58	49.63	49.68	49.73	49.78	49.83	49.88	49.93	49.98	1460	50.05	50.10	50.15	50.20	50.25
1480	49.50	49.55	49.60	49.65	49.70	49.75	49.80	49.85	49.90	1480	50.00	50.05	50.10	50.15	50.20
1500	49.42	49.47	49.52	49.57	49.62	49.67									

6.4 Isocandela Diagram



6.5 Luminous Distribution Intensity Data

Table 6-1

UNIT: cd

C (CAND)	0	22.5	45	67.5	90	112.5	135	157.5	180	202.5	225	247.5	270	292.5	315	337.5			
0	56.4	56.4	56.4	56.4	56.4	56.4	56.4	56.4	56.4	56.4	56.4	56.4	56.4	56.4	56.4	56.4			
5	56.2	56.2	56.2	56.2	56.2	56.2	56.2	56.2	56.2	56.2	56.3	56.3	56.3	56.3	56.3	56.2			
10	55.6	55.6	55.6	55.6	55.5	55.5	55.5	55.5	55.6	55.6	55.7	55.7	55.8	55.7	55.7	55.7			
15	54.6	54.5	54.5	54.5	54.3	54.5	54.5	54.5	54.5	54.5	54.7	54.8	54.8	54.8	54.8	54.7			
20	53.0	53.0	53.1	53.1	53.1	53.1	53.0	52.8	52.8	53.0	53.2	53.4	53.4	53.5	53.4	53.3			
25	51.1	51.1	51.2	51.3	51.2	51.2	51.1	50.9	50.9	51.0	51.4	51.6	51.7	51.8	51.6	51.4			
30	48.7	48.7	48.8	49.1	49.0	49.0	48.7	48.4	48.5	48.7	49.1	49.4	49.6	49.6	49.4	49.1			
35	46.0	46.0	46.2	46.5	46.4	46.3	46.0	45.6	45.7	45.9	46.4	46.8	47.0	47.1	46.8	46.4			
40	42.8	42.8	43.2	43.5	43.4	43.3	43.0	42.5	42.5	42.7	43.3	43.8	44.1	44.2	43.8	43.3			
45	39.3	39.4	39.8	40.1	40.0	40.0	39.5	39.0	39.0	39.2	39.9	40.5	40.7	40.9	40.5	39.9			
50	35.6	35.6	36.0	36.4	36.2	36.2	35.8	35.2	35.1	35.4	36.1	36.7	37.0	37.2	36.8	36.2			
55	31.6	31.6	32.0	32.3	32.1	32.1	31.7	31.1	31.1	31.3	32.0	32.6	32.9	33.2	32.8	32.2			
60	27.3	27.3	27.6	27.9	27.6	27.6	27.3	26.7	26.7	27.0	27.6	28.1	28.4	28.6	28.5	27.9			
65	22.8	22.8	23.0	23.1	22.8	22.9	22.6	22.1	22.2	22.4	22.9	23.4	23.5	24.0	23.9	23.4			
70	18.2	18.1	18.2	18.1	17.7	17.8	17.8	17.4	17.4	17.7	18.0	18.3	18.4	19.0	19.1	18.8			
75	13.5	13.4	13.2	13.0	12.5	12.8	12.9	12.8	13.0	13.0	13.1	13.1	13.1	13.9	14.1	14.0			
80	8.99	8.76	8.46	8.00	7.34	7.85	8.43	8.65	8.88	8.78	8.52	8.08	7.43	6.71	6.23	5.36			
85	4.94	4.67	4.18	3.55	2.87	3.74	4.85	5.45	5.72	5.52	4.96	3.93	3.24	2.09	1.81	1.16			
90	2.23	1.99	1.52	0.76	0.40	1.68	3.03	3.70	3.90	3.56	2.70	1.43	0.55	1.12	1.82	2.26			
95	0.92	0.82	0.63	0.44	0.01	1.44	2.67	3.47	3.73	3.52	2.84	1.68	0.03	0.46	0.71	0.92			
100	0.50	0.47	0.40	0.38	0.01	1.32	2.87	3.49	3.72	3.33	2.85	1.58	0.04	0.37	0.43	0.50			
105	0.36	0.36	0.37	0.32	0.02	1.14	2.63	3.44	3.71	3.50	2.81	1.34	0.04	0.28	0.38	0.36			
110	0.33	0.34	0.34	0.25	0.02	0.80	2.50	3.34	3.63	3.42	2.68	1.08	0.04	0.20	0.35	0.33			
115	0.32	0.31	0.31	0.18	0.03	0.48	2.27	3.18	3.48	3.29	2.45	0.75	0.04	0.14	0.29	0.31			
120	0.30	0.30	0.27	0.14	0.03	0.28	1.92	2.97	3.26	3.07	2.12	0.88	0.05	0.11	0.24	0.29			
125	0.27	0.26	0.22	0.12	0.04	0.17	1.51	2.59	2.96	2.70	1.76	0.33	0.05	0.09	0.20	0.25			
130	0.24	0.23	0.19	0.10	0.05	0.15	1.08	2.17	2.54	2.28	1.27	0.26	0.06	0.08	0.17	0.23			
135	0.21	0.19	0.15	0.08	0.05	0.13	0.65	1.65	2.03	1.75	0.83	0.21	0.06	0.08	0.14	0.19			
140	0.17	0.16	0.13	0.08	0.05	0.11	0.35	1.07	1.43	1.18	0.54	0.18	0.07	0.08	0.13	0.16			
145	0.13	0.13	0.11	0.07	0.06	0.09	0.28	0.58	0.84	0.72	0.41	0.16	0.08	0.09	0.11	0.14			
150	0.12	0.12	0.09	0.07	0.06	0.08	0.21	0.38	0.47	0.44	0.33	0.14	0.09	0.09	0.10	0.13			
155	0.11	0.10	0.09	0.06	0.06	0.08	0.16	0.27	0.35	0.35	0.26	0.13	0.10	0.10	0.10	0.12			
160	0.10	0.10	0.07	0.06	0.06	0.07	0.12	0.18	0.24	0.24	0.20	0.12	0.10	0.10	0.10	0.10			
165	0.10	0.09	0.07	0.07	0.07	0.08	0.09	0.13	0.16	0.16	0.14	0.11	0.10	0.10	0.10	0.10			
170	0.10	0.09	0.08	0.08	0.08	0.09	0.10	0.11	0.12	0.11	0.10	0.10	0.10	0.10	0.10	0.10			
175	0.09	0.10	0.09	0.09	0.09	0.09	0.10	0.11	0.11	0.11	0.10	0.10	0.10	0.10	0.10	0.10			
180	0.09	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10			

7. Photo of sample

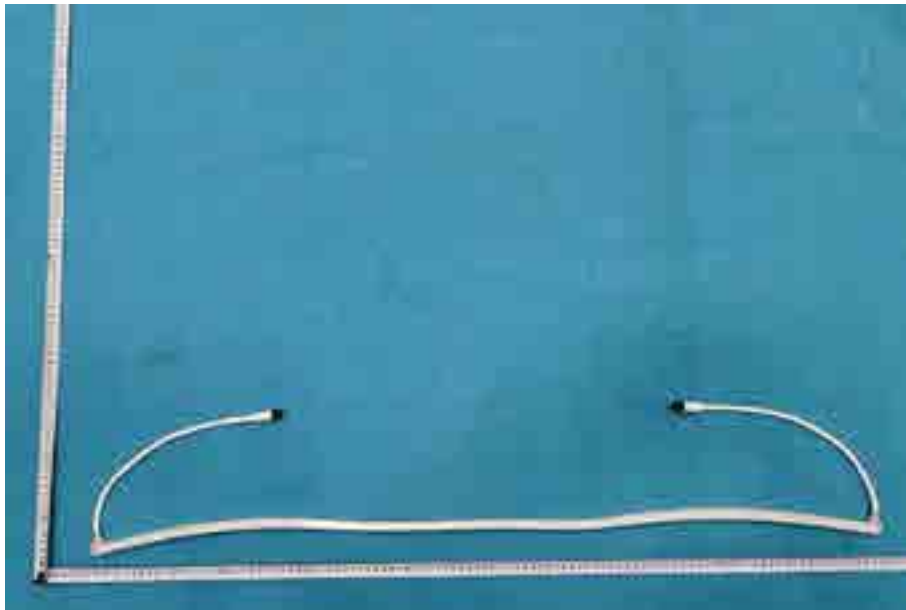


Figure 1 Overview

---End of Report---



Test Report Of ANSI/IES LM-79-19

APPROVED METHOD FOR OPTICAL AND ELECTRICAL MEASUREMENTS OF SOLID-STATE LIGHTING PRODUCTS

Report Number..... : N02A23060187L00901

Client..... : Luci Pte. Ltd.

Address..... : 52A Tanjong Pagar Road, Singapore 088473

Test Model..... : LFUMAY-T1000WL-L27-DF-O-4 24V 4W/m

Brand Name..... : N/A

Testing Laboratory... : Guangdong Meide Testing Technology Co., Ltd.

Address..... : 1st floor, B Area, Jinbaisheng Industrial Park, Headquarters 2 Road, Songshan
Lake Hi-tech Industrial Development Zone, Dongguan City, Guangdong Pr., China.

Testing Location..... : As above

Date of receipt..... : June. 17, 2023

Date of test : June. 26, 2023 – July. 04, 2023

Date of report..... : July. 04, 2023

Tested by:

Jarvis Zhang

Jarvis Zhang/ Test Engineer

Checked by:

Sandy Chen

Sandy Chen/ Project Engineer



Note 1: The test data was only valid for the test sample(s) This test report is prepared for the customers shown above and for the device described herein. It may not be duplicated or use in part without prior written consent from Guangdong Meide Testing Technology Co., Ltd. This report must not be used by the customer to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the Federal Government.

Note 2: This report does not imply product certification, approval, or endorsement by NVLAP, NIST, or any agency of the Federal Government.

Note 3: This report contains data that are not covered by the NVLAP accreditation. It is marked * in the title.

1. Product Description for Equipment under Test (EUT)

Representative (Tested) Model: LFUMAY-T1000WL-L27-DF-O-4 24V 4W/m

Manufacturer:

Product Type: UQ mini

Rated Voltage/Frequency: DC24V

Rated Power: 4W

Rated luminous flux: /

Nominal CCT: 2700K

2. Standards Used

- ANSI/IES LM-79-19:APPROVED METHOD:OPTICAL AND ELECTRICAL MEASUREMENTS OF SOLID-STATE LIGHTING PRODUCTS
- IES TM-30-18 IES Method for Evaluating Light Source Color Rendition (This Method is not in Nvlap accreditation scope)

3. Test equipment list

Test Equipment	Serial No.	Model No.	Calibration due date
Full-field Speed Goniophotometer	MD-E028	GO-R5000	2023/09/17
Digital Power Meter	MD-E001	PF2010	2023/09/17
AC Testing Power Source	MD-E002	DPS1060	2023/09/17
Total Spectral Radiant Flux Standard Lamp	MD-E007	D908S	2023/10/13
Integrating Sphere System	MD-E029	2M	2023/09/17
High Accuracy Array Spectroradio Meter	MD-E011	HAAS-3000	2023/09/17
Digital Power Meter	MD-E008	PF310	2023/09/17
AC Testing Power Source	MD-E010	DPS1010	2023/09/17
Standard Lamp	MD-E036	D204	2023/10/13

Statement of Traceability: Guangdong Meide Testing Technology Co., Ltd. attested that all calibration has been performed using suitable standards traceable to national primary standards and International System of Unit(SI).

4. Test Method

Requirements of Ambient Condition

Product was tested with no seasoning. All stabilization and measurements were made in compliance with ANSI/IES LM-79-19. The product was operated at rated voltage or at voltage required by manufacturer. The ambient temperature of the sample was maintained at $25^{\circ}\text{C} \pm 1.2^{\circ}\text{C}$ during measurement. And relative humidity between 10% and 65%.

Goniophotometer System

The sample was tested according to the ANSI/IES LM-79-19.

Photometric parameters were measured using a type C goniophotometer and software. The samples were operated at rated voltage and was stabilized before measurement. Luminous flux, Luminous efficacy, zonal flux were calculated from the software taken at 1° vertical intervals and 22.5° horizontal intervals. Photometric distance was more than five times of the Largest dimension of the test SSL product.

Integrating Sphere System

The sample was tested according to the ANSI/IES LM-79-19.

The sample measurements were made using a spectroradiometer connected by a fiber optic cable and detector through the detector port of the integrating sphere. Coating reflectance of the integrating sphere was 90% to 98%. Photometric measurement conditions was using 4π geometry. The self-absorption factor is applied in the final test result. The sample was operated at rated voltage and was stabilized before measurement. Chromaticity coordinates, correlated color temperature and color rendering index were calculated from the spectral radiant flux measurements taken at 1 nm intervals over the range of 380 to 780 nm.

Fidelity Index (R_f) and Gamut Index (R_g) Calculation

The R_f , R_g was calculated according to IES TM-30-18 by using calculation tools. The calculation was based on the measured SPD from 380nm to 780nm with 1nm intervals. All the colors in this report is for reference only.

5. Integrating Sphere Test Results

5.1 Test Data

Test Ambient Temperature (Integrating sphere internal temperature)	25.1℃	Test orientation	Downward
Operate time(Min.)	30	stabilization time(Min.)	0

Optical and Electrical Measurement Result

Number	Time	Current (A)	Voltage (V)	Power (W)	Flux(lm)	x	y	u'	v'	CCT (K)	Ra
0	00h00m00s	0.1678	23.998	4.0269	196.46	0.4796	0.4118	0.2748	0.5308	2454	93.7
1	00h00m10s	0.1676	23.998	4.0221	196.21	0.4796	0.4118	0.2748	0.5308	2454	93.8
2	00h00m20s	0.1675	23.998	4.0197	195.86	0.4797	0.4118	0.2748	0.5308	2454	93.7
3	00h00m30s	0.1674	23.998	4.0173	195.57	0.4796	0.4115	0.2749	0.5307	2453	93.7
4	00h00m40s	0.1673	23.998	4.0149	195.3	0.4798	0.4117	0.275	0.5308	2451	93.7
5	00h00m50s	0.1672	23.998	4.0125	195.2	0.4799	0.4116	0.275	0.5308	2450	93.7
6	00h01m00s	0.1672	23.998	4.0125	194.96	0.4798	0.4115	0.275	0.5307	2451	93.8
7	00h01m10s	0.1671	23.998	4.0101	194.83	0.4797	0.4114	0.275	0.5307	2451	93.7
8	00h01m20s	0.1671	23.998	4.0101	194.67	0.4796	0.4114	0.2749	0.5306	2452	93.8
9	00h01m30s	0.167	23.998	4.0077	194.51	0.4796	0.4113	0.275	0.5306	2451	93.7
10	00h01m40s	0.167	23.998	4.0077	194.54	0.4797	0.4115	0.2749	0.5307	2452	93.8
11	00h01m50s	0.167	23.998	4.0077	194.5	0.4796	0.4114	0.2749	0.5306	2452	93.7
12	00h02m00s	0.1669	23.998	4.0053	194.45	0.4797	0.4114	0.275	0.5306	2451	93.7
13	00h02m10s	0.1669	23.998	4.0053	194.18	0.4798	0.4114	0.275	0.5307	2451	93.7
14	00h02m20s	0.1669	23.998	4.0053	194.21	0.4797	0.4114	0.275	0.5307	2450	93.7
15	00h02m30s	0.1669	23.998	4.0053	194.04	0.4799	0.4115	0.2751	0.5307	2449	93.7
16	00h02m40s	0.1668	23.998	4.0029	194.05	0.4797	0.4114	0.275	0.5306	2451	93.8
17	00h02m50s	0.1668	23.998	4.0029	193.98	0.4797	0.4114	0.275	0.5306	2451	93.7
18	00h03m00s	0.1668	23.998	4.0029	193.88	0.4799	0.4115	0.2751	0.5307	2449	93.8
19	00h03m10s	0.1668	23.998	4.0029	193.95	0.4798	0.4115	0.275	0.5307	2451	93.7
20	00h03m20s	0.1668	23.998	4.0029	193.78	0.48	0.4116	0.2751	0.5308	2448	93.7
21	00h03m30s	0.1667	23.998	4.0005	193.71	0.4797	0.4114	0.275	0.5307	2451	93.7

22	00h03m40s	0.1667	23.998	4.0005	193.78	0.4799	0.4113	0.2752	0.5307	2448	93.7
23	00h03m50s	0.1667	23.998	4.0005	193.7	0.4798	0.4113	0.2751	0.5306	2449	93.7
24	00h04m00s	0.1667	23.998	4.0005	193.55	0.4799	0.4116	0.2751	0.5307	2449	93.8
25	00h04m10s	0.1667	23.998	4.0005	193.55	0.4798	0.4115	0.2751	0.5307	2450	93.7
26	00h04m20s	0.1667	23.998	4.0005	193.61	0.4798	0.4116	0.275	0.5307	2451	93.8
27	00h04m30s	0.1667	23.998	4.0005	193.5	0.48	0.4115	0.2751	0.5308	2449	93.7
28	00h04m40s	0.1666	23.998	3.9981	193.35	0.4798	0.4112	0.2751	0.5306	2449	93.7
29	00h04m50s	0.1666	23.998	3.9981	193.44	0.4798	0.4114	0.2751	0.5307	2450	93.7
30	00h05m00s	0.1666	23.998	3.9981	193.41	0.4798	0.4114	0.2751	0.5307	2450	93.8
31	00h05m10s	0.1666	23.998	3.9981	193.32	0.4798	0.4113	0.2751	0.5307	2449	93.7
32	00h05m20s	0.1666	23.998	3.9981	193.2	0.4798	0.4114	0.2751	0.5307	2449	93.7
33	00h05m30s	0.1666	23.998	3.9981	193.18	0.4799	0.4113	0.2752	0.5306	2447	93.7
34	00h05m40s	0.1666	23.998	3.9981	193.25	0.4797	0.4113	0.2751	0.5306	2450	93.7
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38	00h06m20s	0.1665	23.998	3.9957	193.02	0.48	0.4114	0.2752	0.5307	2448	93.7
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56	00h09m20s	0.1664	23.998	3.9933	192.84	0.4798	0.4115	0.275	0.5307	2451	93.7
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73	00h12m10s	0.1664	23.998	3.9933	192.64	0.4798	0.4113	0.2751	0.5306	2449	93.8
74	00h12m20s	0.1664	23.998	3.9933	192.53	0.4799	0.4114	0.2751	0.5307	2449	93.7
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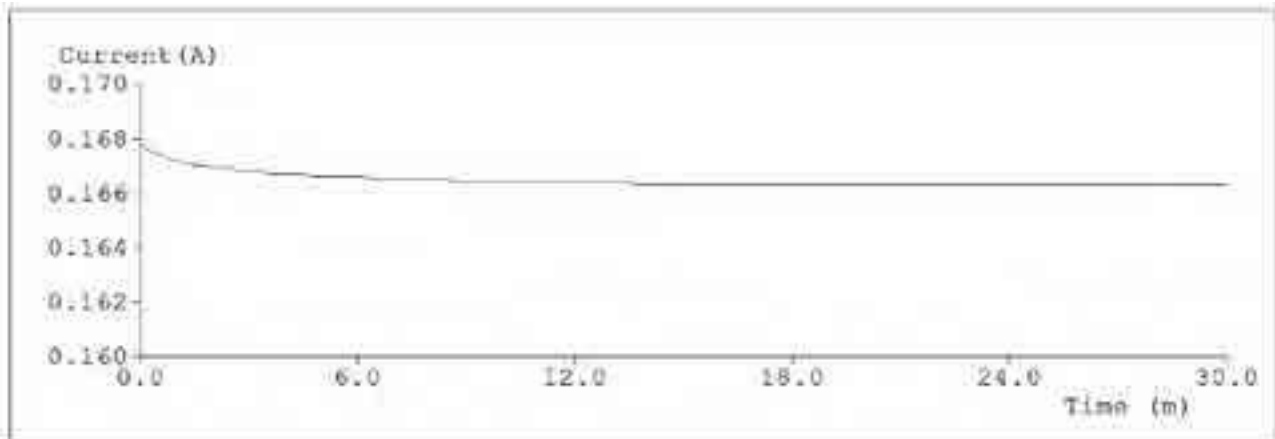
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88	00h14m40s	0.1663	23.998	3.9909	192.44	0.4799	0.4111	0.2753	0.5306	2447	93.7
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91	00h15m10s	0.1663	23.998	3.9909	192.49	0.4799	0.4112	0.2752	0.5306	2447	93.7
92	00h15m20s	0.1663	23.998	3.9909	192.41	0.48	0.4115	0.2752	0.5307	2448	93.7
93	00h15m30s	0.1663	23.998	3.9909	192.45	0.4798	0.4112	0.2752	0.5306	2448	93.7
94	00h15m40s	0.1663	23.998	3.9909	192.34	0.4799	0.4113	0.2752	0.5307	2448	93.7
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96	00h16m00s	0.1663	23.998	3.9909	192.38	0.48	0.4112	0.2753	0.5306	2446	93.7
97	00h16m10s	0.1663	23.998	3.9909	192.46	0.4797	0.4112	0.2751	0.5306	2449	93.7
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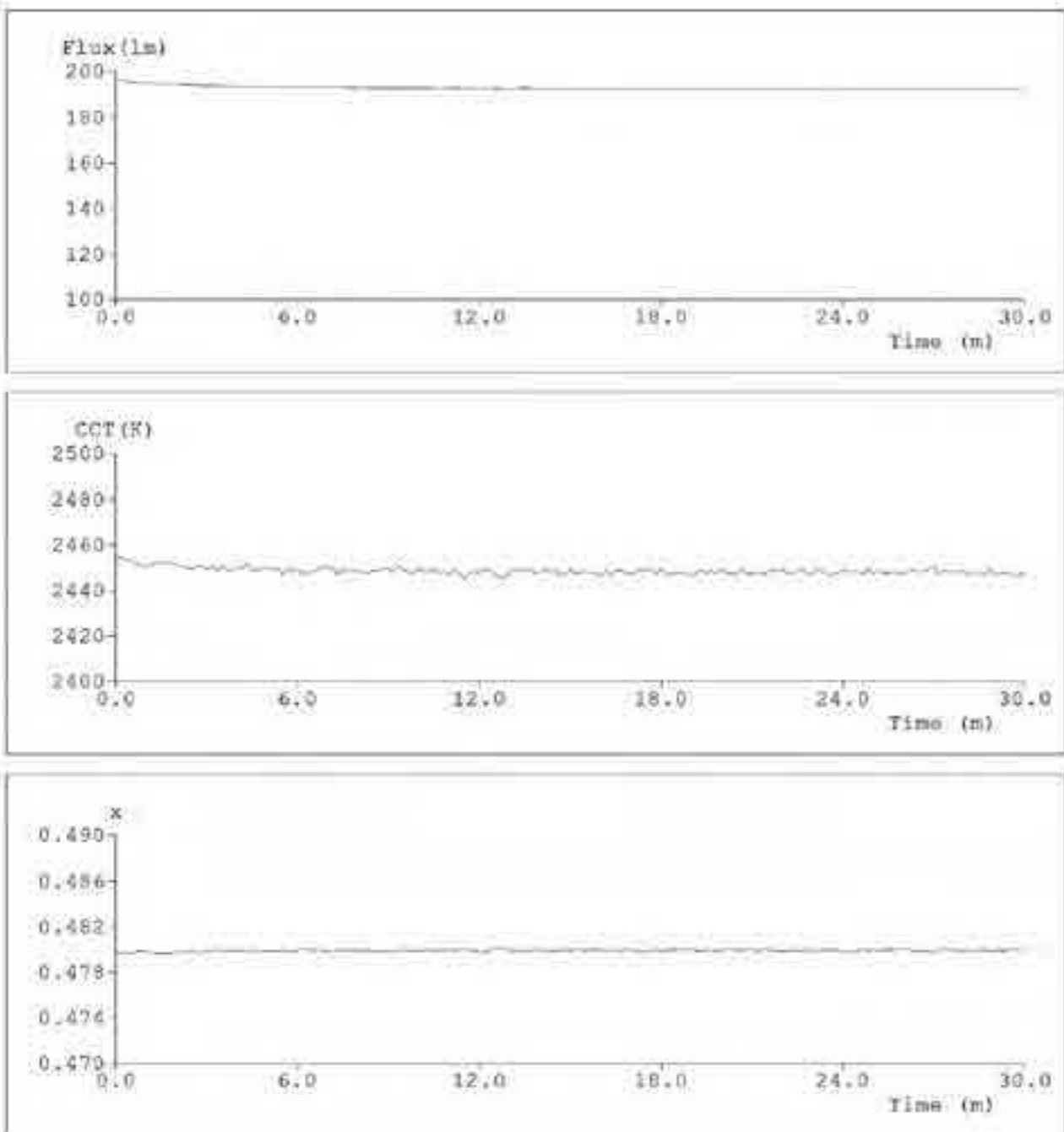
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123	00h20m30s	0.1663	23.998	3.9909	192.33	0.4799	0.4112	0.2752	0.5306	2447	93.7
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125	00h20m50s	0.1663	23.998	3.9909	192.36	0.48	0.4113	0.2752	0.5307	2447	93.7
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127	00h21m10s	0.1663	23.998	3.9909	192.33	0.4798	0.4111	0.2752	0.5306	2448	93.7
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135	00h22m30s	0.1663	23.998	3.9909	192.39	0.4798	0.4112	0.2752	0.5306	2448	93.7
136	00h22m40s	0.1663	23.998	3.9909	192.43	0.4799	0.4114	0.2751	0.5307	2449	93.8
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139	00h23m10s	0.1663	23.998	3.9909	192.4	0.4797	0.4112	0.2751	0.5306	2450	93.7
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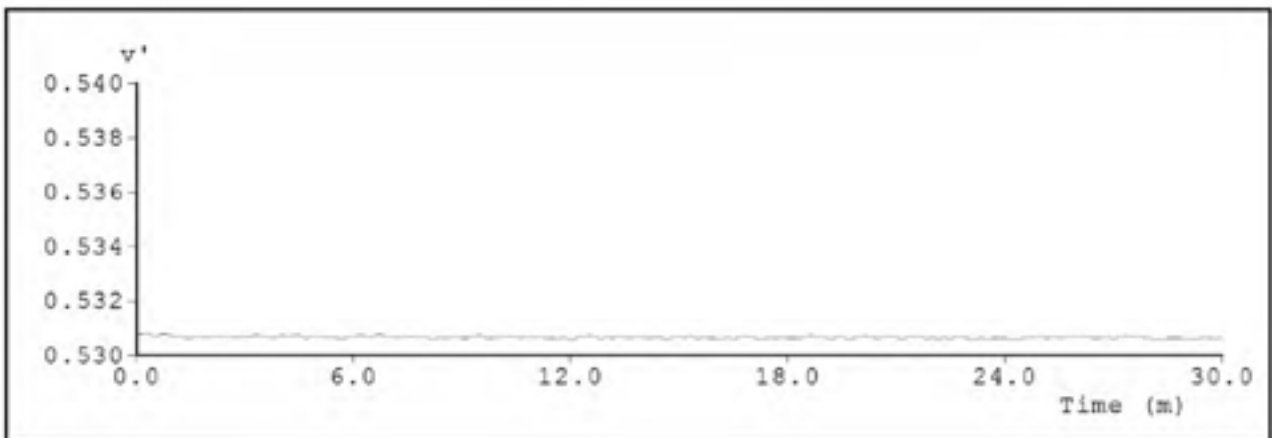
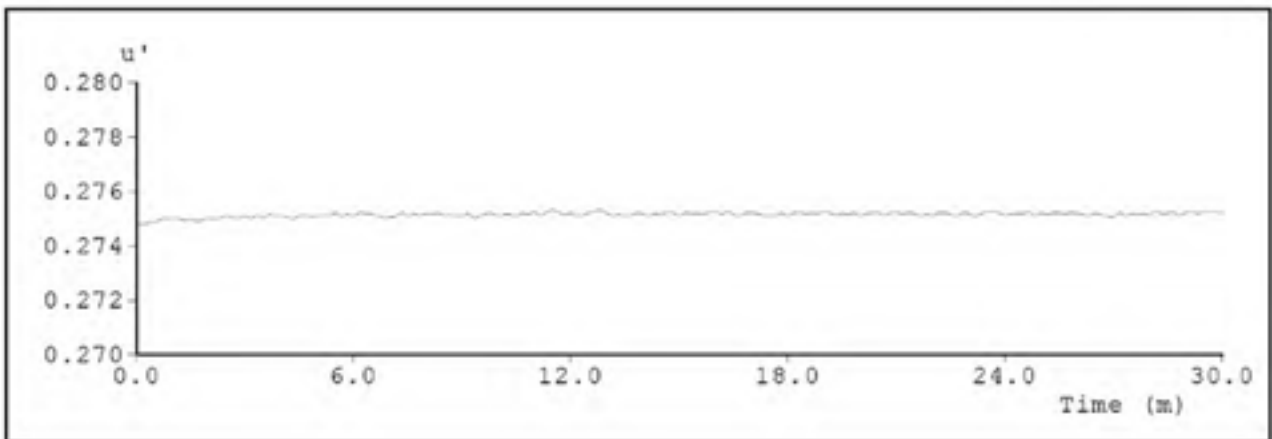
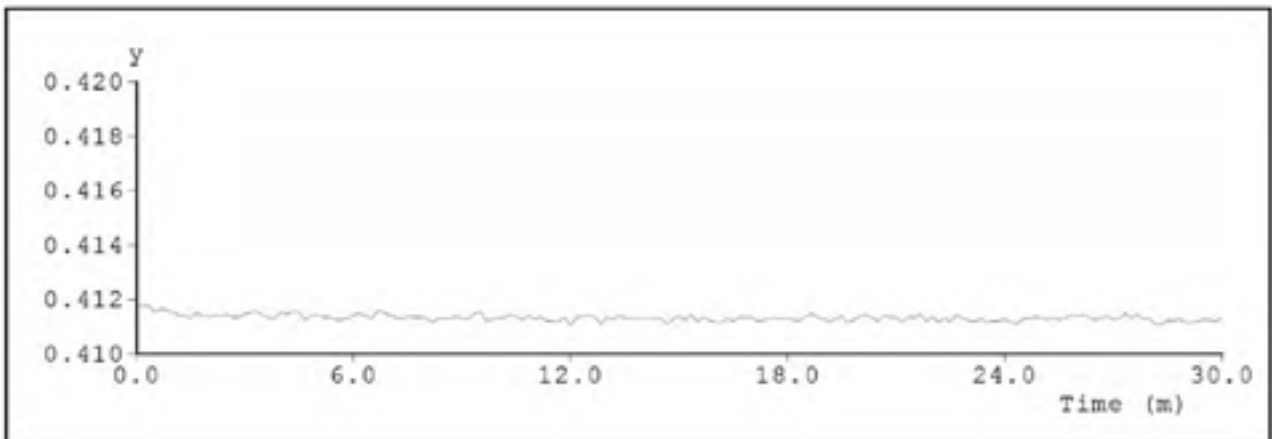
146	00h24m20s	0.1663	23.998	3.9909	192.45	0.4798	0.4111	0.2752	0.5306	2448	93.7
147	00h24m30s	0.1663	23.998	3.9909	192.44	0.4799	0.4113	0.2752	0.5306	2448	93.7
148	00h24m40s	0.1663	23.998	3.9909	192.48	0.48	0.4113	0.2752	0.5306	2447	93.7
149	00h24m50s	0.1663	23.998	3.9909	192.45	0.4798	0.4114	0.2751	0.5307	2449	93.7
150	00h25m00s	0.1663	23.998	3.9909	192.28	0.48	0.4113	0.2752	0.5307	2447	93.7
151	00h25m10s	0.1663	23.998	3.9909	192.36	0.4798	0.4113	0.2751	0.5306	2448	93.8
152	00h25m20s	0.1663	23.998	3.9909	192.39	0.48	0.4113	0.2752	0.5307	2447	93.8
153	00h25m30s	0.1663	23.998	3.9909	192.37	0.4799	0.4113	0.2752	0.5306	2447	93.7
154	00h25m40s	0.1663	23.998	3.9909	192.45	0.4799	0.4113	0.2752	0.5307	2448	93.7
155	00h25m50s	0.1663	23.998	3.9909	192.38	0.48	0.4114	0.2752	0.5307	2447	93.7
156	00h26m00s	0.1663	23.998	3.9909	192.5	0.48	0.4114	0.2752	0.5307	2448	93.7
157	00h26m10s	0.1663	23.998	3.9909	192.5	0.48	0.4115	0.2751	0.5307	2448	93.7
158	00h26m20s	0.1663	23.998	3.9909	192.52	0.4798	0.4113	0.2751	0.5307	2449	93.7
159	00h26m30s	0.1663	23.998	3.9909	192.34	0.4799	0.4112	0.2752	0.5306	2448	93.7
160	00h26m40s	0.1663	23.998	3.9909	192.32	0.4799	0.4113	0.2751	0.5306	2448	93.7
161	00h26m50s	0.1663	23.998	3.9909	192.32	0.4798	0.4114	0.2751	0.5307	2449	93.7
162	00h27m00s	0.1663	23.998	3.9909	192.35	0.4796	0.4113	0.275	0.5306	2450	93.7
163	00h27m10s	0.1663	23.998	3.9909	192.35	0.48	0.4113	0.2752	0.5307	2447	93.7
164	00h27m20s	0.1663	23.998	3.9909	192.44	0.4799	0.4115	0.2751	0.5307	2449	93.7
165	00h27m30s	0.1663	23.998	3.9909	192.47	0.4799	0.4113	0.2752	0.5307	2448	93.7
166	00h27m40s	0.1663	23.998	3.9909	192.37	0.48	0.4115	0.2751	0.5307	2448	93.7
167	00h27m50s	0.1663	23.998	3.9909	192.38	0.4799	0.4113	0.2752	0.5306	2448	93.7
168	00h28m00s	0.1663	23.998	3.9909	192.45	0.4798	0.4113	0.2751	0.5306	2449	93.7
169	00h28m10s	0.1663	23.998	3.9909	192.35	0.4799	0.4111	0.2753	0.5306	2446	93.6
170	00h28m20s	0.1663	23.998	3.9909	192.44	0.4797	0.4111	0.2752	0.5305	2448	93.7
171	00h28m30s	0.1663	23.998	3.9909	192.31	0.4799	0.4112	0.2752	0.5306	2448	93.7
172	00h28m40s	0.1663	23.998	3.9909	192.43	0.4799	0.4112	0.2752	0.5306	2447	93.7
173	00h28m50s	0.1663	23.998	3.9909	192.33	0.4798	0.4113	0.2751	0.5306	2449	93.7
174	00h29m00s	0.1663	23.998	3.9909	192.33	0.4798	0.4112	0.2752	0.5306	2447	93.7
175	00h29m10s	0.1663	23.998	3.9909	192.31	0.4799	0.4112	0.2753	0.5306	2447	93.7
176	00h29m20s	0.1663	23.998	3.9909	192.33	0.4798	0.4112	0.2752	0.5306	2448	93.7

177	00h29m30s	0.1663	23.998	3.9909	192.35	0.48	0.4113	0.2752	0.5306	2447	93.7
178	00h29m40s	0.1663	23.998	3.9909	192.44	0.48	0.4112	0.2753	0.5306	2447	93.7
179	00h29m50s	0.1663	23.998	3.9909	192.32	0.4799	0.4112	0.2752	0.5306	2447	93.7
180	00h30m00s	0.1663	23.998	3.9909	192.33	0.48	0.4113	0.2752	0.5307	2447	93.7

Test curves

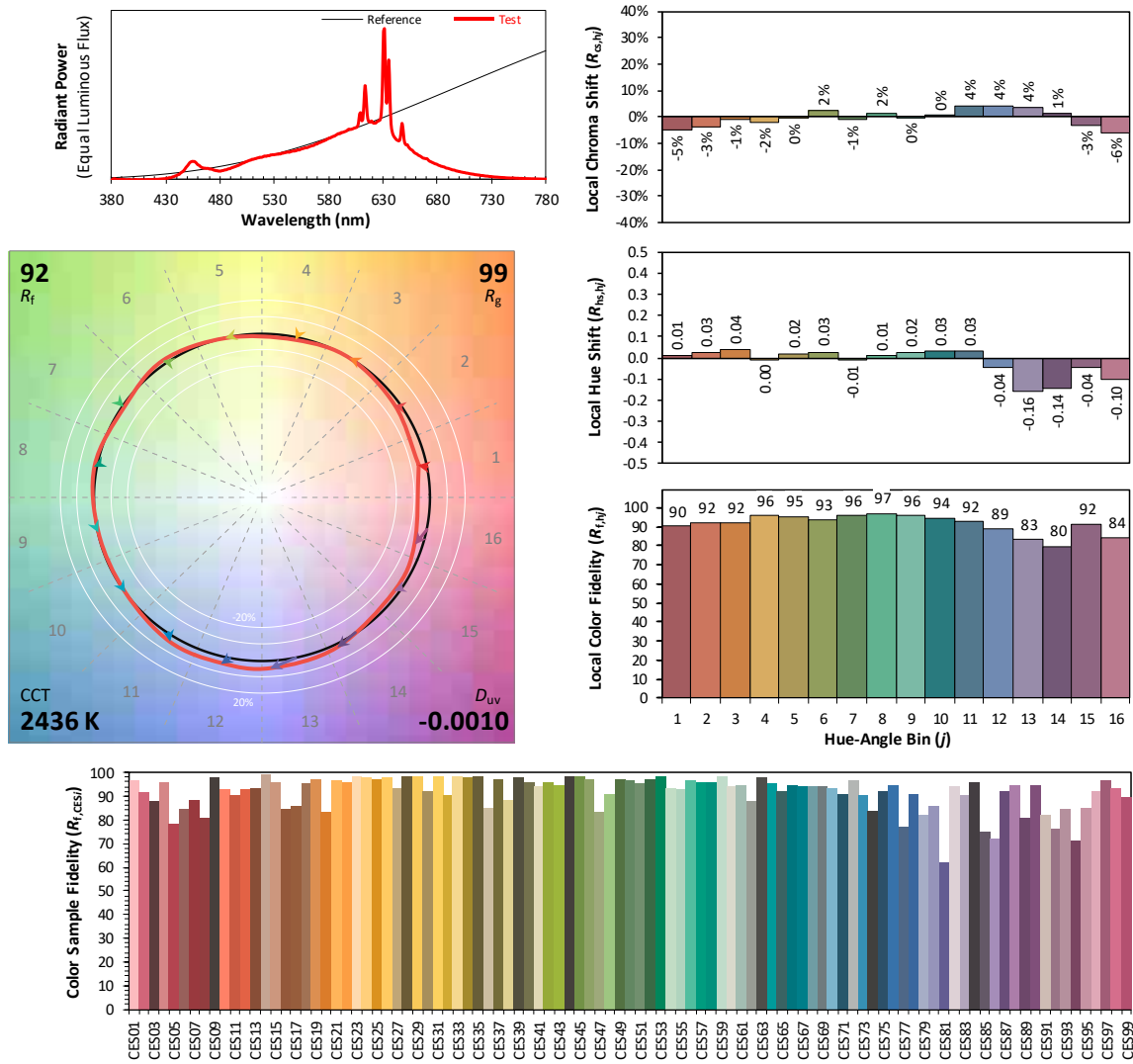






***5.2 ANSI/IES TM-30-18 Color Rendition Report**
ANSI/IES TM-30-18 Color Rendition Report

Source: Manufacturer:
Date: 2023/7/3 Model: LFUMAY-T1000WL-L27-DF-0-4 24V 4W/m



Notes: This is a recommended method for displaying ANSI/IES TM-30-18 information.

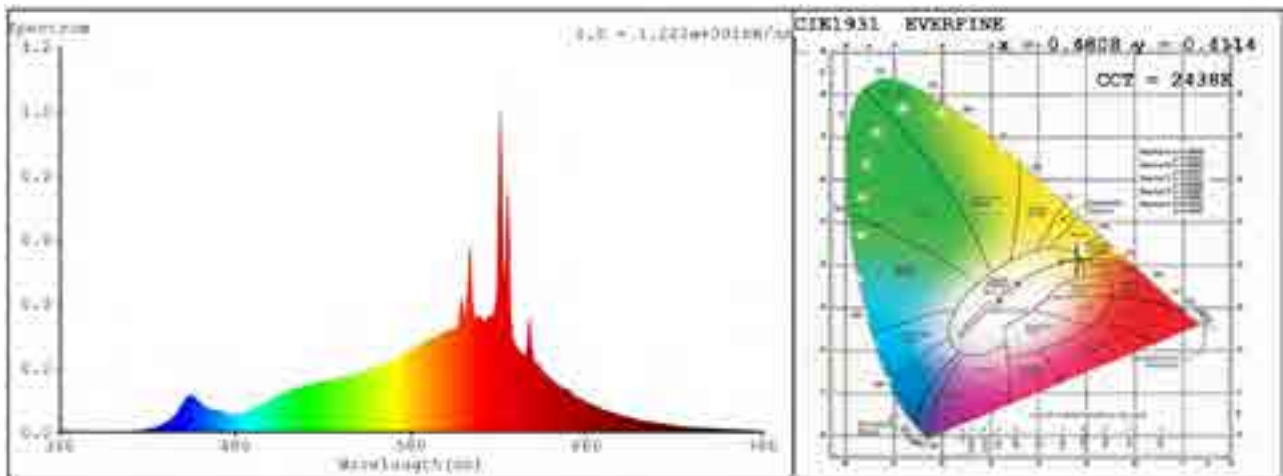
x	0.4808
y	0.4113
u'	0.2758
v'	0.5308

CIE 13.3-1995 (CRI)

R_a	94
R_9	57

Colors are for visual orientation purposes only. Created with the ANSI/IES TM-30-18 Calculator Version 2.00.

5.3 Relative Spectral Power Distribution



nm	mW	nm	mW	nm	mW	nm	mW	nm	mW
380	0.001	414	0.0025	448	0.0745	482	0.0573	516	0.1391
381	0.0041	415	0.0018	449	0.0826	483	0.0589	517	0.139
382	0.0076	416	0.0023	450	0.0903	484	0.0616	518	0.1392
383	0.0052	417	0.0021	451	0.1001	485	0.0619	519	0.1422
384	0.0049	418	0.0026	452	0.1078	486	0.0642	520	0.1454
385	0	419	0.0039	453	0.1115	487	0.0674	521	0.147
386	0.0031	420	0.0036	454	0.1139	488	0.0687	522	0.1449
387	0.0018	421	0.0037	455	0.1135	489	0.0698	523	0.1482
388	0.0023	422	0.0038	456	0.113	490	0.0742	524	0.1495
389	0.0042	423	0.0041	457	0.1086	491	0.0759	525	0.1488
390	0.0023	424	0.0052	458	0.1019	492	0.0783	526	0.1536
391	0.0032	425	0.0054	459	0.094	493	0.0809	527	0.1534
392	0.0021	426	0.0062	460	0.0907	494	0.0831	528	0.1553
393	0.0013	427	0.0066	461	0.0855	495	0.086	529	0.1545
394	0.0014	428	0.0074	462	0.0793	496	0.0882	530	0.1561
395	0.0018	429	0.0074	463	0.0764	497	0.0911	531	0.1569
396	0.0031	430	0.01	464	0.0734	498	0.095	532	0.1585
397	0.0015	431	0.0098	465	0.0725	499	0.0974	533	0.1581
398	0.0004	432	0.012	466	0.0719	500	0.1023	534	0.1607
399	0	433	0.0138	467	0.0703	501	0.1039	535	0.1593
400	0	434	0.0135	468	0.0712	502	0.1063	536	0.163
401	0.0019	435	0.0152	469	0.0698	503	0.1106	537	0.1641
402	0.0024	436	0.0188	470	0.0669	504	0.1125	538	0.1654
403	0.0012	437	0.0201	471	0.067	505	0.1157	539	0.1673
404	0.0009	438	0.0232	472	0.0653	506	0.1184	540	0.1685
405	0.001	439	0.0257	473	0.0634	507	0.1211	541	0.1704
406	0.001	440	0.029	474	0.0598	508	0.122	542	0.1722
407	0.0016	441	0.0326	475	0.0589	509	0.1269	543	0.1702
408	0.0023	442	0.0339	476	0.0566	510	0.1265	544	0.1722
409	0.0008	443	0.0409	477	0.0571	511	0.1289	545	0.1749
410	0.0007	444	0.0457	478	0.0541	512	0.131	546	0.1764
411	0.0014	445	0.0505	479	0.0547	513	0.1324	547	0.1786
412	0.0014	446	0.0563	480	0.0538	514	0.1351	548	0.1774
413	0.0023	447	0.0645	481	0.0564	515	0.1363	549	0.1796

nm	mW	nm	mW	nm	mW	nm	mW	nm	mW
550	0.1808	599	0.3117	648	0.3143	697	0.055	746	0.0119
551	0.1854	600	0.311	649	0.2477	698	0.0548	747	0.0114
552	0.184	601	0.3134	650	0.2219	699	0.0519	748	0.0116
553	0.1856	602	0.3155	651	0.2157	700	0.0519	749	0.0119
554	0.1896	603	0.319	652	0.2167	701	0.0493	750	0.011
555	0.1913	604	0.3208	653	0.2036	702	0.0481	751	0.0108
556	0.1932	605	0.3231	654	0.1956	703	0.0465	752	0.0101
557	0.1954	606	0.3282	655	0.1884	704	0.0454	753	0.0101
558	0.1977	607	0.3509	656	0.1847	705	0.0446	754	0.0101
559	0.1985	608	0.4036	657	0.1792	706	0.0423	755	0.0093
560	0.1991	609	0.4133	658	0.1709	707	0.0418	756	0.0091
561	0.2025	610	0.3647	659	0.1655	708	0.0405	757	0.0094
562	0.2052	611	0.3739	660	0.1616	709	0.0388	758	0.0088
563	0.2075	612	0.4698	661	0.1586	710	0.0375	759	0.0084
564	0.2097	613	0.5806	662	0.1524	711	0.0367	760	0.0084
565	0.2116	614	0.5158	663	0.1492	712	0.0354	761	0.0082
566	0.2129	615	0.4061	664	0.1458	713	0.0349	762	0.0075
567	0.2182	616	0.3655	665	0.1414	714	0.0325	763	0.0078
568	0.2209	617	0.3569	666	0.1363	715	0.0321	764	0.0072
569	0.221	618	0.3569	667	0.1334	716	0.0312	765	0.0074
570	0.2272	619	0.3632	668	0.1326	717	0.0304	766	0.0068
571	0.2293	620	0.3547	669	0.1301	718	0.0296	767	0.0069
572	0.2311	621	0.3494	670	0.1312	719	0.0285	768	0.0067
573	0.2349	622	0.35	671	0.1243	720	0.0267	769	0.007
574	0.2377	623	0.3506	672	0.1175	721	0.0271	770	0.0065
575	0.2397	624	0.358	673	0.1134	722	0.0261	771	0.006
576	0.2436	625	0.3615	674	0.1107	723	0.0249	772	0.0059
577	0.2456	626	0.3655	675	0.107	724	0.0237	773	0.0057
578	0.2506	627	0.3705	676	0.1044	725	0.0233	774	0.0055
579	0.2533	628	0.4108	677	0.1007	726	0.0231	775	0.0054
580	0.258	629	0.5804	678	0.0985	727	0.0217	776	0.0051
581	0.2578	630	0.9114	679	0.0967	728	0.0209	777	0.005
582	0.263	631	0.9297	680	0.0928	729	0.021	778	0.0052
583	0.2651	632	0.6034	681	0.0894	730	0.0196	779	0.0046
584	0.2689	633	0.4723	682	0.0874	731	0.0191	780	0.0046
585	0.2698	634	0.6221	683	0.084	732	0.0181		
586	0.275	635	0.7363	684	0.083	733	0.0177		
587	0.2785	636	0.5103	685	0.0805	734	0.0172		
588	0.2836	637	0.3448	686	0.0796	735	0.017		
589	0.2856	638	0.2981	687	0.0753	736	0.0161		
590	0.2845	639	0.276	688	0.0726	737	0.0157		
591	0.2916	640	0.2638	689	0.0718	738	0.0152		
592	0.2917	641	0.2554	690	0.07	739	0.0148		
593	0.2938	642	0.2474	691	0.0675	740	0.0143		
594	0.2966	643	0.2436	692	0.0654	741	0.0143		
595	0.2986	644	0.2406	693	0.0628	742	0.0135		
596	0.3019	645	0.2455	694	0.0613	743	0.0128		
597	0.3072	646	0.2841	695	0.0605	744	0.0125		
598	0.312	647	0.3473	696	0.0584	745	0.0121		

6. Goniophotometer Test results

6.1 Test Data

Test Ambient Temperature	25.2°C	Test orientation	Downward
Operate time(Min.)	90	stabilization time(Min.)	30

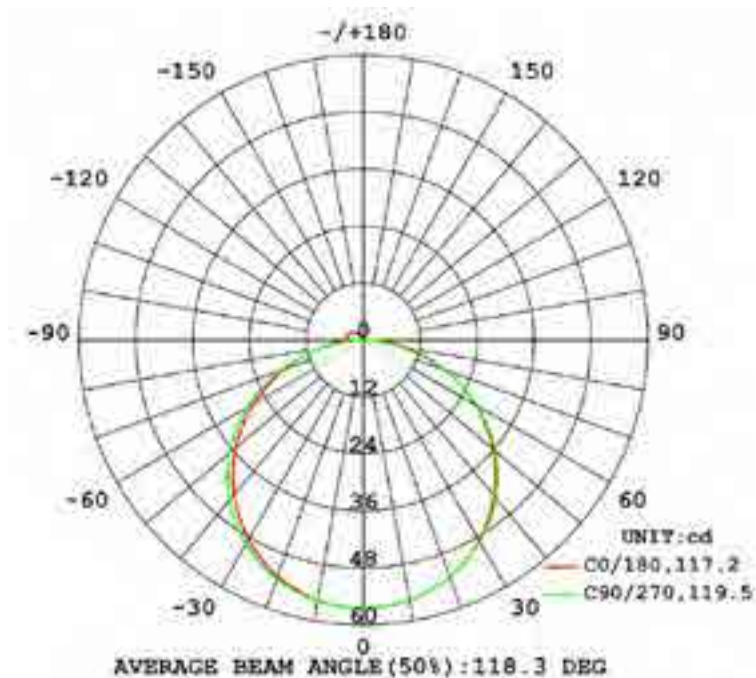
Electrical Measurement

Input Voltage (V)	Frequency (Hz)	Input Current(A)	Power Factor	Power(W)
24	--	0.165	1.0000	3.96

Optical Measurement

Luminous Flux (lm)	Efficacy(lm/W)	I _{max} (cd)	η up (%)	η down (%)
180.271	45.52	56.45	3.1	96.9

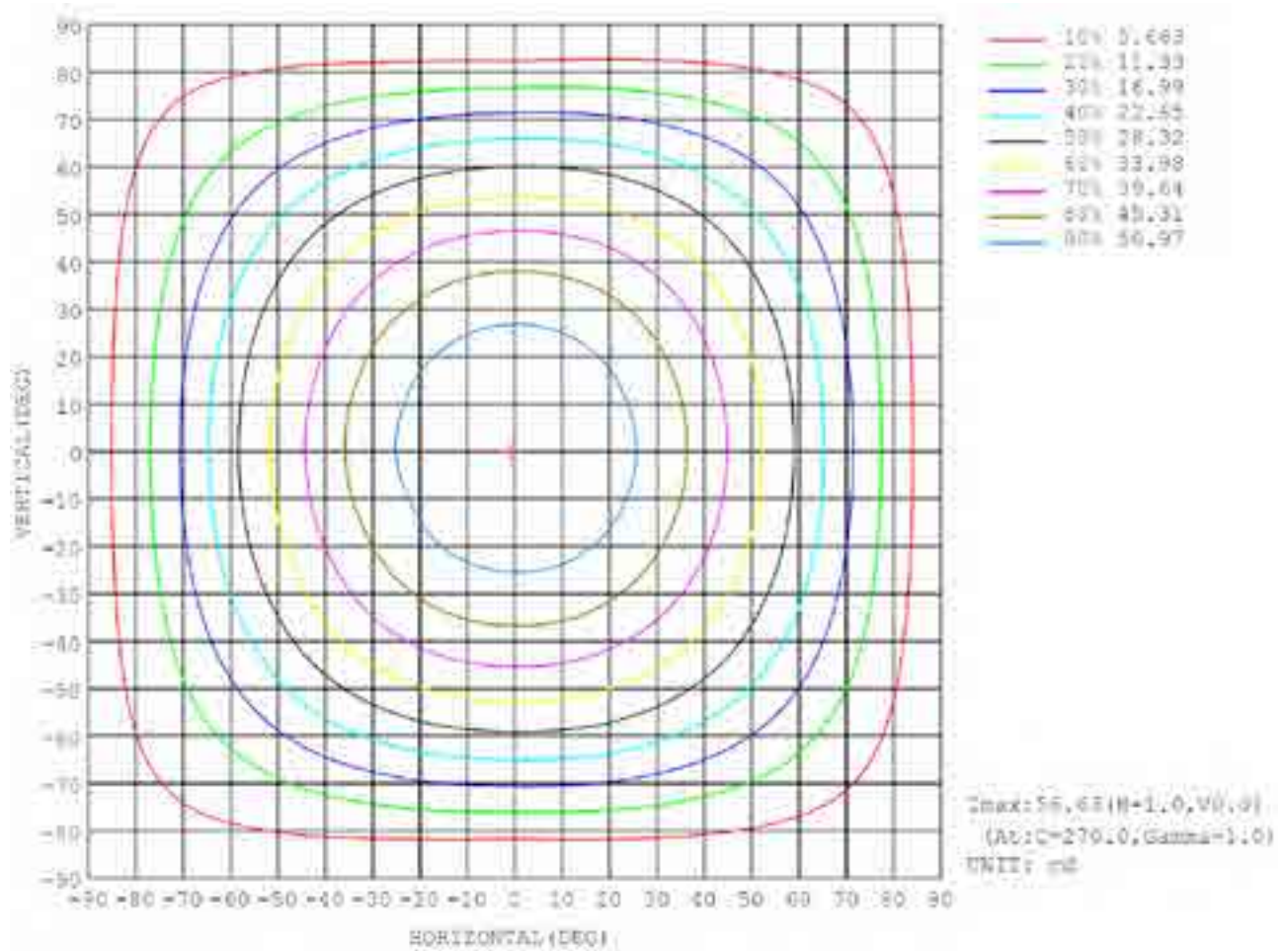
6.2 Luminous Intensity Distribution



6.3 Zonal Flux Diagram

[illegible]

6.4 Isocandela Diagram



6.5 Luminous Distribution Intensity Data

C (DMG)		UNIT: cd																	
(000)	0	22.5	45	67.5	90	112.5	135	157.5	180	202.5	225	247.5	270	292.5	315	337.5			
0	56.4	56.4	56.4	56.4	56.4	56.4	56.4	56.4	56.4	56.4	56.4	56.4	56.4	56.4	56.4	56.4			
5	58.2	58.2	58.2	58.2	58.2	58.2	58.2	58.2	58.2	58.2	58.2	58.2	58.2	58.2	58.2	58.2			
10	55.6	55.6	55.6	55.6	55.6	55.6	55.6	55.6	55.6	55.6	55.6	55.6	55.6	55.6	55.6	55.6			
15	54.4	54.4	54.4	54.4	54.4	54.4	54.4	54.4	54.4	54.4	54.4	54.4	54.4	54.4	54.4	54.4			
20	53.0	53.0	53.0	53.0	53.0	53.0	53.0	53.0	53.0	53.0	53.0	53.0	53.0	53.0	53.0	53.0			
25	51.1	51.1	51.1	51.1	51.1	51.1	51.1	51.1	51.1	51.1	51.1	51.1	51.1	51.1	51.1	51.1			
30	48.7	48.7	48.7	48.7	48.7	48.7	48.7	48.7	48.7	48.7	48.7	48.7	48.7	48.7	48.7	48.7			
35	46.0	46.0	46.0	46.0	46.0	46.0	46.0	46.0	46.0	46.0	46.0	46.0	46.0	46.0	46.0	46.0			
40	42.8	42.8	42.8	42.8	42.8	42.8	42.8	42.8	42.8	42.8	42.8	42.8	42.8	42.8	42.8	42.8			
45	39.3	39.3	39.3	39.3	39.3	39.3	39.3	39.3	39.3	39.3	39.3	39.3	39.3	39.3	39.3	39.3			
50	35.4	35.4	35.4	35.4	35.4	35.4	35.4	35.4	35.4	35.4	35.4	35.4	35.4	35.4	35.4	35.4			
55	31.4	31.4	31.4	31.4	31.4	31.4	31.4	31.4	31.4	31.4	31.4	31.4	31.4	31.4	31.4	31.4			
60	27.3	27.3	27.3	27.3	27.3	27.3	27.3	27.3	27.3	27.3	27.3	27.3	27.3	27.3	27.3	27.3			
65	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8			
70	18.2	18.2	18.2	18.2	18.2	18.2	18.2	18.2	18.2	18.2	18.2	18.2	18.2	18.2	18.2	18.2			
75	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5			
80	8.99	8.76	8.46	8.00	7.36	6.55	5.42	4.65	3.88	3.18	2.52	1.93	1.43	0.93	0.71	0.23	0.36		
85	8.94	8.67	8.18	7.55	6.87	6.16	5.45	4.72	4.00	3.29	2.52	1.93	1.43	0.93	0.71	0.23	0.36		
90	2.21	1.99	1.52	0.76	0.40	0.18	0.03	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
95	0.92	0.82	0.63	0.44	0.31	0.22	0.15	0.10	0.07	0.05	0.03	0.02	0.01	0.01	0.01	0.01	0.01		
100	0.50	0.47	0.40	0.38	0.31	0.26	0.21	0.17	0.14	0.11	0.09	0.07	0.05	0.04	0.03	0.02	0.01		
105	0.36	0.36	0.37	0.32	0.22	0.14	0.08	0.04	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01		
110	0.33	0.34	0.34	0.25	0.12	0.06	0.03	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
115	0.32	0.31	0.31	0.18	0.09	0.04	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
120	0.30	0.30	0.27	0.14	0.07	0.03	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
125	0.27	0.26	0.23	0.12	0.06	0.03	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
130	0.24	0.23	0.19	0.10	0.05	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
135	0.21	0.18	0.15	0.08	0.04	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
140	0.17	0.16	0.13	0.06	0.03	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
145	0.15	0.13	0.11	0.07	0.04	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
150	0.12	0.12	0.09	0.07	0.04	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
155	0.11	0.10	0.09	0.06	0.04	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
160	0.10	0.10	0.07	0.06	0.04	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
165	0.10	0.08	0.07	0.07	0.07	0.06	0.04	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01		
170	0.10	0.08	0.08	0.08	0.08	0.08	0.08	0.10	0.11	0.12	0.11	0.10	0.10	0.10	0.10	0.10	0.10		
175	0.09	0.10	0.09	0.09	0.09	0.09	0.09	0.10	0.11	0.11	0.11	0.10	0.10	0.10	0.10	0.10	0.10		
180	0.09	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10		

7. Photo of sample

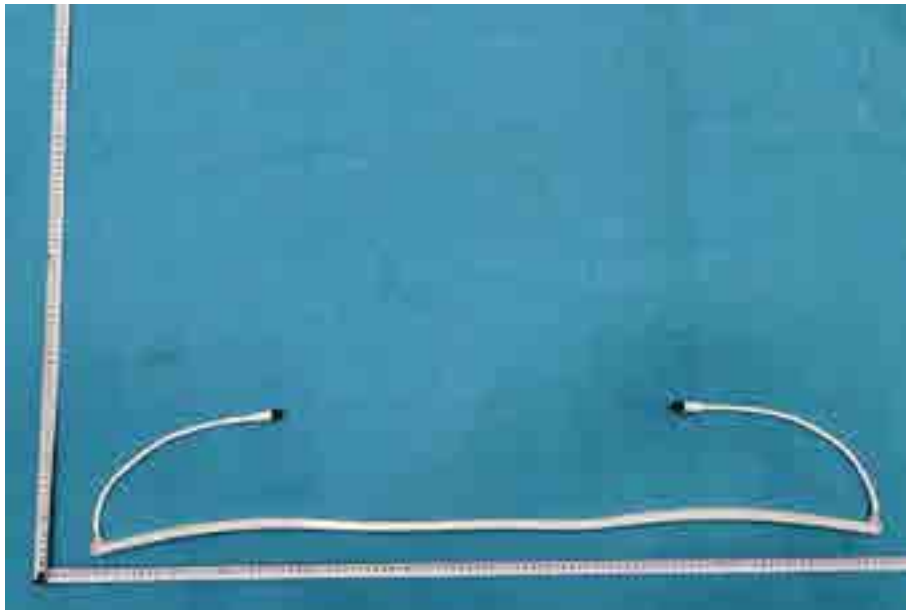


Figure 1 Overview

---End of Report---



Test Report Of ANSI/IES LM-79-19

APPROVED METHOD FOR OPTICAL AND ELECTRICAL MEASUREMENTS OF SOLID-STATE LIGHTING PRODUCTS

Report Number..... : N02A23060187L00801

Client..... : Luci Pte. Ltd.

Address..... : 52A Tanjong Pagar Road, Singapore 088473

Test Model..... : LFUMAY-T1000WL-L27-DF-O-6 24V 6W/m

Brand Name..... : N/A

Testing Laboratory... : Guangdong Meide Testing Technology Co., Ltd.

Address..... : 1st floor, B Area, Jinbaisheng Industrial Park, Headquarters 2 Road, Songshan
Lake Hi-tech Industrial Development Zone, Dongguan City, Guangdong Pr., China.

Testing Location..... : As above

Date of receipt..... : June. 17, 2023

Date of test : June. 26, 2023 – July. 04, 2023

Date of report..... : July. 04, 2023

Tested by:

Jarvis Zhang

Jarvis Zhang/ Test Engineer

Checked by:

Sandy Chen

Sandy Chen/ Project Engineer

Approved by:

Jessie Li

Jessie Li/ Technical Manager

Note 1: The test data was only valid for the test sample(s). This test report is prepared for the customer shown above and for the device described herein. It may not be duplicated or use in part without prior written consent from Guangdong Meide Testing Technology Co., Ltd. This report must not be used by the customer to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the Federal Government.

Note 2: This report does not imply product certification, approval, or endorsement by NVLAP, NIST, or any agency of the Federal Government.

Note 3: This report contains data that are not covered by the NVLAP accreditation. It is marked * in the title.

1. Product Description for Equipment under Test (EUT)

Representative (Tested) Model: LFUMAY-T1000WL-L27-DF-O-6 24V 6W/m

Manufacturer:

Product Type: UQ mini

Rated Voltage/Frequency: DC24V

Rated Power: 6W

Rated luminous flux: /

Nominal CCT: 2700K

2. Standards Used

- ANSI/IES LM-79-19:APPROVED METHOD:OPTICAL AND ELECTRICAL MEASUREMENTS OF SOLID-STATE LIGHTING PRODUCTS
- IES TM-30-18 IES Method for Evaluating Light Source Color Rendition (This Method is not in Nvlap accreditation scope)

3. Test equipment list

Test Equipment	Serial No.	Model No.	Calibration due date
Full-field Speed Goniophotometer	MD-E028	GO-R5000	2023/09/17
Digital Power Meter	MD-E001	PF2010	2023/09/17
AC Testing Power Source	MD-E002	DPS1060	2023/09/17
Total Spectral Radiant Flux Standard Lamp	MD-E007	D908S	2023/10/13
Integrating Sphere System	MD-E029	2M	2023/09/17
High Accuracy Array Spectroradio Meter	MD-E011	HAAS-3000	2023/09/17
Digital Power Meter	MD-E008	PF310	2023/09/17
AC Testing Power Source	MD-E010	DPS1010	2023/09/17
Standard Lamp	MD-E036	D204	2023/10/13

Statement of Traceability: Guangdong Meide Testing Technology Co., Ltd. attested that all calibration has been performed using suitable standards traceable to national primary standards and International System of Unit(SI).

4. Test Method

Requirements of Ambient Condition

Product was tested with no seasoning. All stabilization and measurements were made in compliance with ANSI/IES LM-79-19. The product was operated at rated voltage or at voltage required by manufacturer. The ambient temperature of the sample was maintained at $25^{\circ}\text{C} \pm 1.2^{\circ}\text{C}$ during measurement. And relative humidity between 10% and 65%.

Goniophotometer System

The sample was tested according to the ANSI/IES LM-79-19.

Photometric parameters were measured using a type C goniophotometer and software. The samples were operated at rated voltage and was stabilized before measurement. Luminous flux, Luminous efficacy, zonal flux were calculated from the software taken at 1° vertical intervals and 22.5° horizontal intervals. Photometric distance was more than five times of the Largest dimension of the test SSL product.

Integrating Sphere System

The sample was tested according to the ANSI/IES LM-79-19.

The sample measurements were made using a spectroradiometer connected by a fiber optic cable and detector through the detector port of the integrating sphere. Coating reflectance of the integrating sphere was 90% to 98%. Photometric measurement conditions was using 4π geometry. The self-absorption factor is applied in the final test result. The sample was operated at rated voltage and was stabilized before measurement. Chromaticity coordinates, correlated color temperature and color rendering index were calculated from the spectral radiant flux measurements taken at 1 nm intervals over the range of 380 to 780 nm.

Fidelity Index (R_f) and Gamut Index (R_g) Calculation

The R_f , R_g was calculated according to IES TM-30-18 by using calculation tools. The calculation was based on the measured SPD from 380nm to 780nm with 1nm intervals. All the colors in this report is for reference only.

5. Integrating Sphere Test Results

5.1 Test Data

Test Ambient Temperature (Integrating sphere internal temperature)	25.1℃	Test orientation	Downward
Operate time(Min.)	30	stabilization time(Min.)	0

Optical and Electrical Measurement Result

Number	Time	Current (A)	Voltage (V)	Power (W)	Flux(lm)	x	y	u'	v'	CCT (K)	Ra
0	00h00m00s	0.267	23.998	6.4075	319.54	0.4795	0.4123	0.2744	0.531	2460	93.8
1	00h00m10s	0.2659	23.998	6.3811	319.18	0.4794	0.4123	0.2743	0.531	2462	93.8
2	00h00m20s	0.2654	23.998	6.3691	318.06	0.4794	0.4121	0.2745	0.5309	2460	93.8
3	00h00m30s	0.265	23.998	6.3595	317.15	0.4793	0.412	0.2745	0.5308	2460	93.8
4	00h00m40s	0.2647	23.998	6.3523	316.85	0.4795	0.4121	0.2745	0.5309	2458	93.8
5	00h00m50s	0.2644	23.998	6.3451	315.84	0.4796	0.412	0.2747	0.5309	2456	93.8
6	00h01m00s	0.2642	23.998	6.3403	315.27	0.4797	0.4118	0.2748	0.5308	2454	93.8
7	00h01m10s	0.264	23.998	6.3355	314.85	0.4796	0.4118	0.2748	0.5308	2455	93.7
8	00h01m20s	0.2639	23.998	6.3331	314.46	0.4797	0.4119	0.2747	0.5309	2455	93.7
9	00h01m30s	0.2637	23.998	6.3283	314.11	0.4797	0.4119	0.2747	0.5309	2455	93.7
10	00h01m40s	0.2636	23.998	6.3259	313.6	0.4797	0.4118	0.2748	0.5308	2454	93.7
11	00h01m50s	0.2635	23.998	6.3235	313.18	0.4798	0.412	0.2748	0.5309	2454	93.7
12	00h02m00s	0.2634	23.998	6.3211	313.24	0.4799	0.4119	0.2749	0.5309	2453	93.7
13	00h02m10s	0.2633	23.998	6.3187	312.55	0.4797	0.4117	0.2749	0.5308	2452	93.8
14	00h02m20s	0.2632	23.998	6.3163	312.28	0.4798	0.4117	0.2749	0.5308	2452	93.7
15	00h02m30s	0.2631	23.998	6.3139	312.26	0.48	0.4117	0.275	0.5308	2450	93.6
16	00h02m40s	0.263	23.998	6.3115	311.79	0.4799	0.4118	0.2749	0.5308	2452	93.8
17	00h02m50s	0.263	23.998	6.3115	311.69	0.4798	0.4118	0.2749	0.5308	2452	93.7
18	00h03m00s	0.2629	23.998	6.3091	311.41	0.4798	0.4117	0.2749	0.5308	2452	93.7
19	00h03m10s	0.2628	23.998	6.3067	311.35	0.4797	0.4117	0.2749	0.5308	2453	93.8
20	00h03m20s	0.2628	23.998	6.3067	310.89	0.4799	0.4115	0.2751	0.5307	2449	93.7
21	00h03m30s	0.2627	23.998	6.3043	310.98	0.4798	0.4117	0.275	0.5308	2451	93.8

22	00h03m40s	0.2627	23.998	6.3043	310.71	0.4798	0.4118	0.2749	0.5308	2453	93.8
23	00h03m50s	0.2626	23.998	6.3019	310.6	0.4801	0.4118	0.2751	0.5309	2449	93.7
24	00h04m00s	0.2626	23.998	6.3019	310.57	0.4797	0.4116	0.2749	0.5308	2452	93.7
25	00h04m10s	0.2625	23.998	6.2995	310.31	0.48	0.4117	0.2751	0.5308	2450	93.7
26	00h04m20s	0.2625	23.998	6.2995	310.3	0.4797	0.4115	0.2749	0.5307	2452	93.7
27	00h04m30s	0.2624	23.998	6.2971	309.84	0.48	0.4117	0.2751	0.5308	2450	93.7
28	00h04m40s	0.2624	23.998	6.2971	309.91	0.4799	0.4116	0.275	0.5307	2450	93.7
29	00h04m50s	0.2623	23.998	6.2947	309.71	0.4799	0.4117	0.275	0.5308	2451	93.7
30	00h05m00s	0.2623	23.998	6.2947	309.56	0.4801	0.4116	0.2752	0.5308	2448	93.7
31	00h05m10s	0.2623	23.998	6.2947	309.61	0.4799	0.4116	0.275	0.5308	2450	93.7
32	00h05m20s	0.2622	23.998	6.2923	309.37	0.4802	0.4118	0.2751	0.5309	2448	93.7
33	00h05m30s	0.2622	23.998	6.2923	309.23	0.48	0.4115	0.2751	0.5307	2449	93.7
34	00h05m40s	0.2621	23.998	6.2899	309.12	0.4802	0.4117	0.2752	0.5309	2448	93.7
35	00h05m50s	0.2621	23.998	6.2899	309.09	0.4801	0.4117	0.2751	0.5308	2449	93.7
36	00h06m00s	0.2621	23.998	6.2899	308.86	0.4801	0.4116	0.2751	0.5308	2448	93.7
37	00h06m10s	0.2621	23.998	6.2899	308.9	0.4802	0.4117	0.2752	0.5308	2447	93.7
38	00h06m20s	0.262	23.998	6.2875	308.77	0.48	0.4115	0.2751	0.5307	2449	93.7
39	00h06m30s	0.262	23.998	6.2875	308.72	0.4801	0.4117	0.2752	0.5308	2448	93.7
40	00h06m40s	0.262	23.998	6.2875	308.48	0.48	0.4115	0.2751	0.5307	2449	93.7
41	00h06m50s	0.2619	23.998	6.2851	308.2	0.4801	0.4115	0.2752	0.5307	2447	93.7
42	00h07m00s	0.2619	23.998	6.2851	308.24	0.48	0.4114	0.2752	0.5307	2448	93.7
43	00h07m10s	0.2619	23.998	6.2851	308.17	0.4801	0.4115	0.2752	0.5308	2447	93.8
44	00h07m20s	0.2619	23.998	6.2851	308.05	0.4801	0.4116	0.2752	0.5308	2447	93.7
45	00h07m30s	0.2619	23.998	6.2851	308.13	0.4801	0.4116	0.2752	0.5308	2448	93.7
46	00h07m40s	0.2618	23.998	6.2827	307.76	0.4801	0.4115	0.2752	0.5308	2447	93.8
47	00h07m50s	0.2618	23.998	6.2827	307.8	0.4801	0.4116	0.2752	0.5308	2448	93.7
48	00h08m00s	0.2618	23.998	6.2827	307.72	0.4801	0.4115	0.2752	0.5307	2447	93.7
49	00h08m10s	0.2618	23.998	6.2827	307.9	0.48	0.4117	0.2751	0.5308	2449	93.7
50	00h08m20s	0.2617	23.998	6.2803	307.35	0.4803	0.4116	0.2753	0.5308	2445	93.8
51	00h08m30s	0.2617	23.998	6.2803	307.6	0.4801	0.4114	0.2752	0.5307	2446	93.7
52	00h08m40s	0.2617	23.998	6.2803	307.34	0.4802	0.4115	0.2752	0.5308	2446	93.7

53	00h08m50s	0.2617	23.998	6.2803	307.33	0.4801	0.4115	0.2752	0.5308	2447	93.7
54	00h09m00s	0.2617	23.998	6.2803	307.19	0.4803	0.4115	0.2754	0.5308	2444	93.7
55	00h09m10s	0.2616	23.998	6.2779	307.21	0.4801	0.4116	0.2752	0.5308	2447	93.7
56	00h09m20s	0.2616	23.998	6.2779	307.16	0.4802	0.4116	0.2752	0.5308	2447	93.7
57	00h09m30s	0.2616	23.998	6.2779	307.25	0.4802	0.4115	0.2753	0.5308	2445	93.7
58	00h09m40s	0.2616	23.998	6.2779	307.03	0.4801	0.4115	0.2752	0.5308	2447	93.7
59	00h09m50s	0.2616	23.998	6.2779	307.01	0.4802	0.4116	0.2752	0.5308	2446	93.7
60	00h10m00s	0.2616	23.998	6.2779	306.72	0.4802	0.4115	0.2753	0.5308	2446	93.7
61	00h10m10s	0.2615	23.998	6.2755	306.75	0.4802	0.4114	0.2753	0.5307	2446	93.7
62	00h10m20s	0.2615	23.998	6.2755	306.63	0.4802	0.4113	0.2753	0.5307	2445	93.7
63	00h10m30s	0.2615	23.998	6.2755	306.72	0.4801	0.4114	0.2753	0.5307	2446	93.7
64	00h10m40s	0.2615	23.998	6.2755	306.91	0.4802	0.4116	0.2752	0.5308	2446	93.7
65	00h10m50s	0.2615	23.998	6.2755	306.47	0.4802	0.4116	0.2752	0.5308	2447	93.7
66	00h11m00s	0.2615	23.998	6.2755	306.71	0.4801	0.4115	0.2752	0.5308	2447	93.7
67	00h11m10s	0.2615	23.998	6.2755	306.68	0.4802	0.4117	0.2752	0.5308	2448	93.7
68	00h11m20s	0.2614	23.998	6.2731	306.61	0.4801	0.4115	0.2752	0.5307	2447	93.7
69	00h11m30s	0.2614	23.998	6.2731	306.36	0.4802	0.4116	0.2752	0.5308	2446	93.7
70	00h11m40s	0.2614	23.998	6.2731	306.08	0.4803	0.4114	0.2754	0.5307	2444	93.7
71	00h11m50s	0.2614	23.998	6.2731	306.14	0.4804	0.4116	0.2753	0.5308	2445	93.7
72	00h12m00s	0.2614	23.998	6.2731	306.23	0.4801	0.4115	0.2752	0.5308	2447	93.7
73	00h12m10s	0.2614	23.998	6.2731	305.9	0.48	0.4114	0.2752	0.5307	2447	93.7
74	00h12m20s	0.2613	23.998	6.2707	305.99	0.4801	0.4115	0.2752	0.5308	2448	93.7
75	00h12m30s	0.2613	23.998	6.2707	305.75	0.4801	0.4113	0.2753	0.5307	2445	93.7
76	00h12m40s	0.2613	23.998	6.2707	305.64	0.4802	0.4114	0.2754	0.5307	2444	93.7
77	00h12m50s	0.2613	23.998	6.2707	305.45	0.48	0.4113	0.2752	0.5307	2447	93.7
78	00h13m00s	0.2613	23.998	6.2707	305.48	0.4803	0.4113	0.2754	0.5307	2444	93.7
79	00h13m10s	0.2613	23.998	6.2707	305.54	0.4801	0.4115	0.2752	0.5308	2447	93.7
80	00h13m20s	0.2613	23.998	6.2707	305.7	0.4803	0.4115	0.2753	0.5308	2445	93.7
81	00h13m30s	0.2613	23.998	6.2707	305.55	0.4802	0.4115	0.2753	0.5308	2446	93.7
82	00h13m40s	0.2612	23.998	6.2683	305.33	0.48	0.4114	0.2752	0.5307	2447	93.7
83	00h13m50s	0.2612	23.998	6.2683	305.55	0.4802	0.4115	0.2752	0.5308	2446	93.7

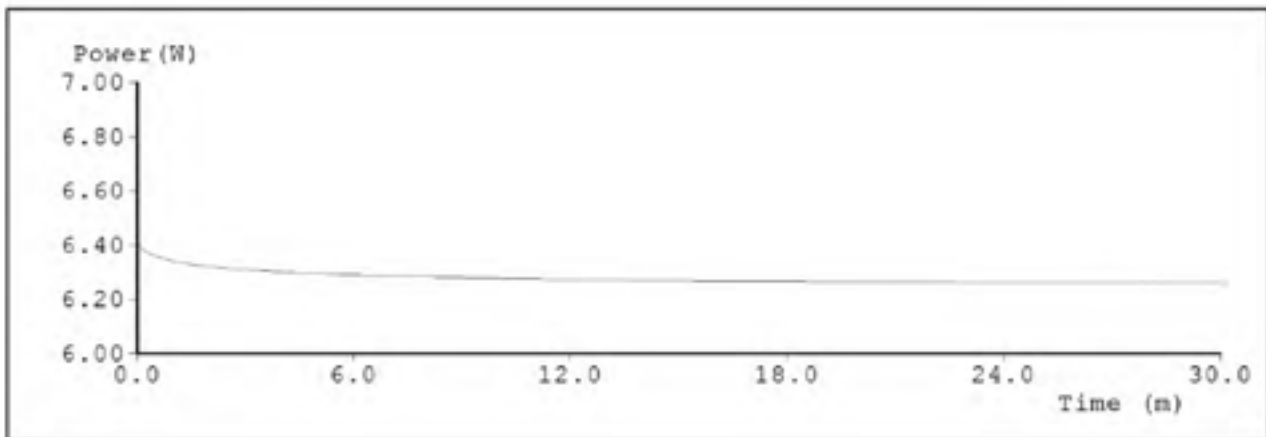
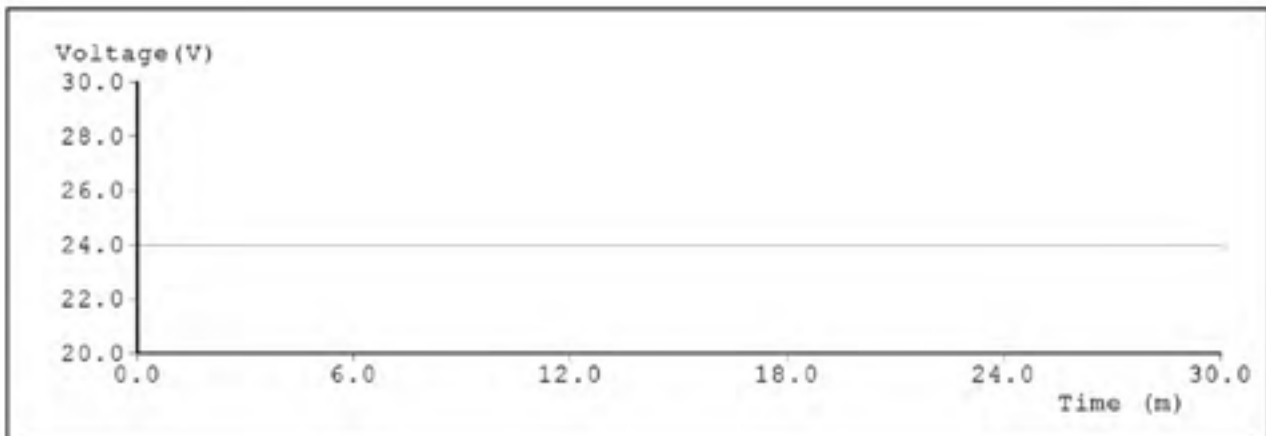
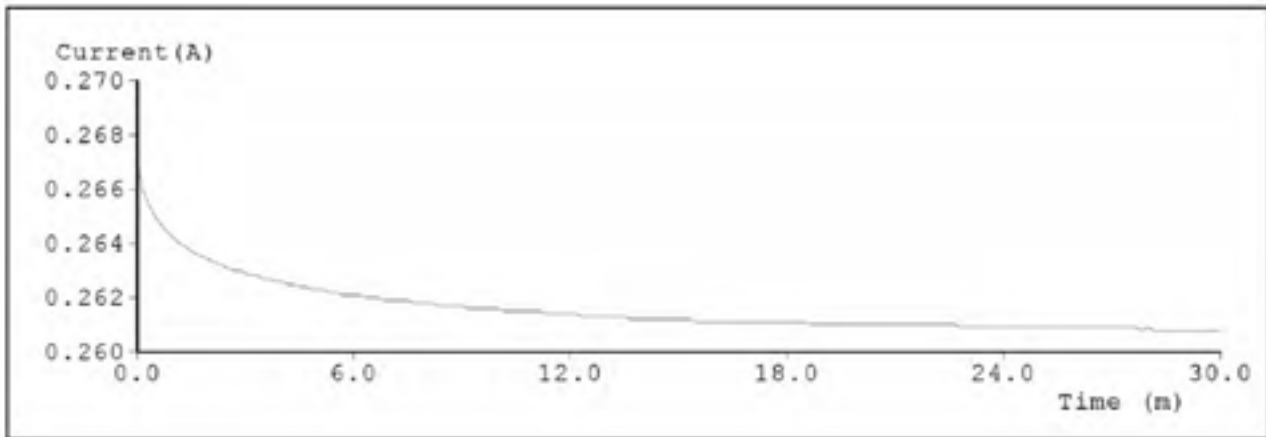
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85	00h14m10s	0.2612	23.998	6.2683	305.33	0.4802	0.4114	0.2753	0.5307	2445	93.7
86	00h14m20s	0.2612	23.998	6.2683	305.12	0.4802	0.4114	0.2754	0.5307	2444	93.7
87	00h14m30s	0.2612	23.998	6.2683	305.27	0.4803	0.4114	0.2754	0.5308	2444	93.7
88	00h14m40s	0.2612	23.998	6.2683	305.44	0.4801	0.4114	0.2752	0.5307	2447	93.7
89	00h14m50s	0.2612	23.998	6.2683	305.1	0.48	0.4113	0.2752	0.5307	2447	93.8
90	00h15m00s	0.2612	23.998	6.2683	305.05	0.4801	0.4114	0.2753	0.5307	2446	93.7
91	00h15m10s	0.2612	23.998	6.2683	305.21	0.4801	0.4115	0.2752	0.5307	2446	93.7
92	00h15m20s	0.2612	23.998	6.2683	305.17	0.4802	0.4114	0.2753	0.5307	2445	93.7
93	00h15m30s	0.2611	23.998	6.2659	304.95	0.4802	0.4114	0.2753	0.5307	2445	93.7
94	00h15m40s	0.2611	23.998	6.2659	305.16	0.4801	0.4114	0.2753	0.5307	2445	93.7
95	00h15m50s	0.2611	23.998	6.2659	305.14	0.4801	0.4114	0.2752	0.5307	2446	93.7
96	00h16m00s	0.2611	23.998	6.2659	305.24	0.4801	0.4116	0.2752	0.5308	2448	93.7
97	00h16m10s	0.2611	23.998	6.2659	305.02	0.4801	0.4114	0.2753	0.5307	2446	93.7
98	00h16m20s	0.2611	23.998	6.2659	305.22	0.48	0.4114	0.2752	0.5307	2447	93.7
99	00h16m30s	0.2611	23.998	6.2659	305.01	0.4801	0.4115	0.2752	0.5308	2447	93.7
100	00h16m40s	0.2611	23.998	6.2659	304.89	0.4802	0.4116	0.2752	0.5308	2446	93.7
101	00h16m50s	0.2611	23.998	6.2659	304.96	0.4802	0.4114	0.2753	0.5307	2445	93.7
102	00h17m00s	0.2611	23.998	6.2659	304.76	0.4802	0.4115	0.2753	0.5308	2445	93.7
103	00h17m10s	0.2611	23.998	6.2659	305.04	0.4801	0.4113	0.2753	0.5307	2446	93.7
104	00h17m20s	0.2611	23.998	6.2659	304.85	0.4803	0.4113	0.2754	0.5307	2444	93.6
105	00h17m30s	0.2611	23.998	6.2659	304.79	0.4801	0.4113	0.2753	0.5307	2446	93.7
106	00h17m40s	0.2611	23.998	6.2659	305	0.4801	0.4115	0.2752	0.5307	2447	93.7
107	00h17m50s	0.2611	23.998	6.2659	304.96	0.4802	0.4114	0.2753	0.5307	2445	93.7
108	00h18m00s	0.2611	23.998	6.2659	304.69	0.4802	0.4113	0.2754	0.5307	2444	93.7
109	00h18m10s	0.2611	23.998	6.2659	304.84	0.4801	0.4114	0.2753	0.5307	2446	93.7
110	00h18m20s	0.2611	23.998	6.2659	304.83	0.48	0.4113	0.2752	0.5307	2447	93.8
111	00h18m30s	0.2611	23.998	6.2659	304.8	0.4802	0.4113	0.2754	0.5307	2444	93.7
112	00h18m40s	0.261	23.998	6.2635	304.89	0.48	0.4113	0.2752	0.5307	2447	93.7
113	00h18m50s	0.261	23.998	6.2635	305.13	0.48	0.4116	0.2751	0.5308	2448	93.8
114	00h19m00s	0.261	23.998	6.2635	304.77	0.4802	0.4112	0.2754	0.5307	2444	93.7

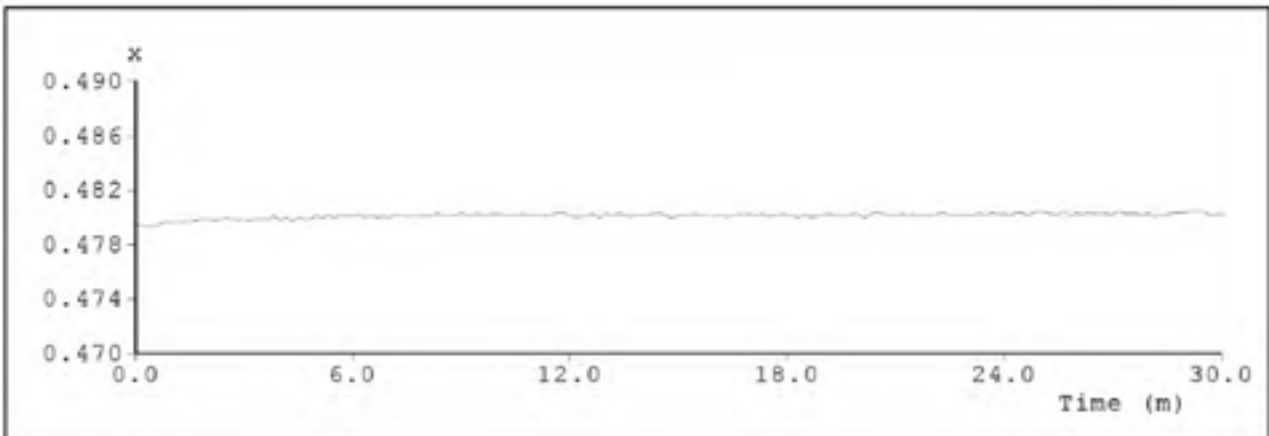
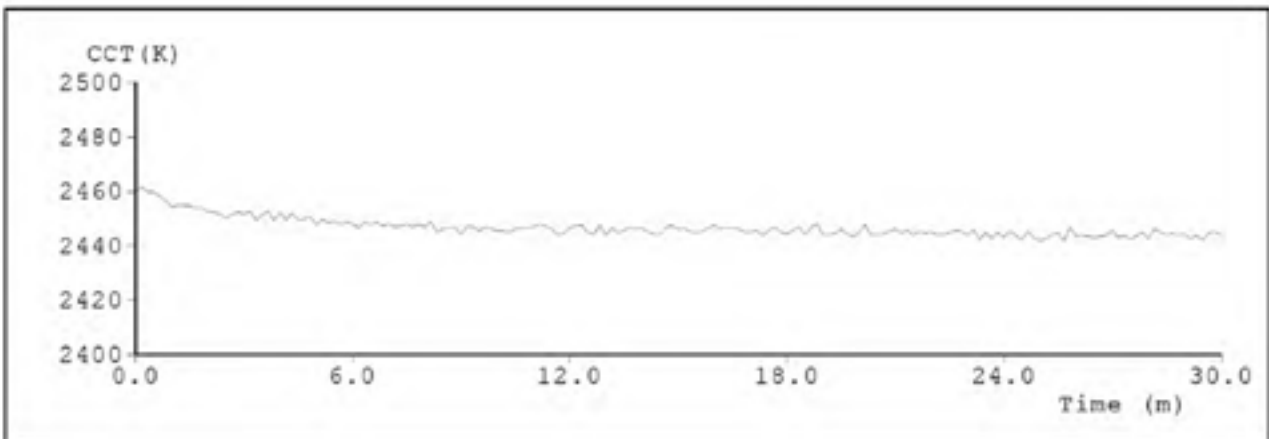
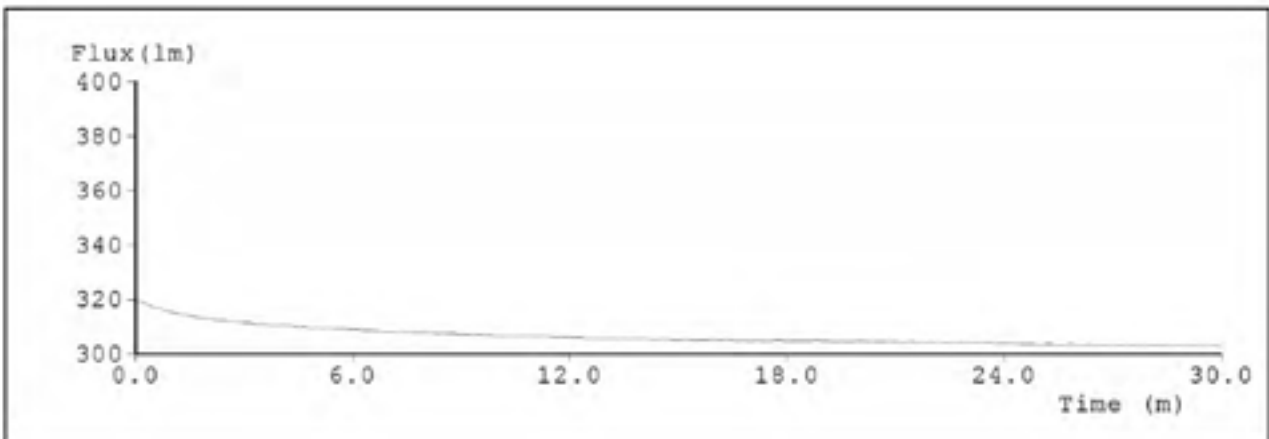
115	00h19m10s	0.261	23.998	6.2635	304.68	0.4802	0.4113	0.2754	0.5307	2444	93.7
116	00h19m20s	0.261	23.998	6.2635	304.64	0.4802	0.4113	0.2754	0.5307	2445	93.7
117	00h19m30s	0.261	23.998	6.2635	304.75	0.4801	0.4114	0.2753	0.5307	2446	93.8
118	00h19m40s	0.261	23.998	6.2635	304.6	0.4802	0.4113	0.2754	0.5307	2444	93.7
119	00h19m50s	0.261	23.998	6.2635	304.56	0.4802	0.4112	0.2754	0.5307	2443	93.6
120	00h20m00s	0.261	23.998	6.2635	304.82	0.4802	0.4114	0.2753	0.5307	2445	93.7
121	00h20m10s	0.261	23.998	6.2635	304.76	0.4799	0.4113	0.2752	0.5307	2448	93.7
122	00h20m20s	0.261	23.998	6.2635	304.49	0.4802	0.4113	0.2754	0.5307	2444	93.7
123	00h20m30s	0.261	23.998	6.2635	304.6	0.4803	0.4115	0.2754	0.5308	2444	93.7
124	00h20m40s	0.261	23.998	6.2635	304.58	0.4802	0.4114	0.2754	0.5307	2444	93.7
125	00h20m50s	0.261	23.998	6.2635	304.49	0.4802	0.4114	0.2753	0.5307	2445	93.7
126	00h21m00s	0.261	23.998	6.2635	304.58	0.4801	0.4114	0.2753	0.5307	2446	93.7
127	00h21m10s	0.261	23.998	6.2635	304.26	0.4802	0.4114	0.2753	0.5308	2445	93.7
128	00h21m20s	0.261	23.998	6.2635	304.47	0.4801	0.4114	0.2753	0.5307	2446	93.7
129	00h21m30s	0.261	23.998	6.2635	304.53	0.4802	0.4113	0.2754	0.5307	2444	93.7
130	00h21m40s	0.261	23.998	6.2635	304.1	0.4801	0.4113	0.2753	0.5307	2445	93.7
131	00h21m50s	0.261	23.998	6.2635	304.3	0.4802	0.4114	0.2753	0.5307	2445	93.7
132	00h22m00s	0.261	23.998	6.2635	304.5	0.4801	0.4112	0.2753	0.5306	2445	93.7
133	00h22m10s	0.261	23.998	6.2635	304.15	0.4802	0.4113	0.2754	0.5307	2444	93.7
134	00h22m20s	0.261	23.998	6.2635	304.31	0.4803	0.4115	0.2754	0.5308	2444	93.7
135	00h22m30s	0.261	23.998	6.2635	304.34	0.4801	0.4113	0.2753	0.5307	2445	93.7
136	00h22m40s	0.261	23.998	6.2635	304.21	0.4801	0.4113	0.2753	0.5307	2446	93.7
137	00h22m50s	0.2609	23.998	6.2611	304.44	0.4801	0.4113	0.2753	0.5307	2445	93.7
138	00h23m00s	0.2609	23.998	6.2611	304.12	0.4802	0.4112	0.2754	0.5307	2444	93.6
139	00h23m10s	0.2609	23.998	6.2611	304.22	0.4802	0.4115	0.2753	0.5308	2446	93.7
140	00h23m20s	0.2609	23.998	6.2611	304.23	0.4803	0.4112	0.2755	0.5307	2442	93.6
141	00h23m30s	0.2609	23.998	6.2611	304.03	0.4801	0.4113	0.2753	0.5307	2445	93.8
142	00h23m40s	0.2609	23.998	6.2611	304.01	0.4803	0.4113	0.2755	0.5307	2443	93.7
143	00h23m50s	0.2609	23.998	6.2611	303.91	0.4802	0.4114	0.2753	0.5307	2445	93.7
144	00h24m00s	0.2609	23.998	6.2611	303.9	0.4802	0.4112	0.2754	0.5307	2443	93.7
145	00h24m10s	0.2609	23.998	6.2611	303.98	0.4802	0.4114	0.2753	0.5307	2446	93.7

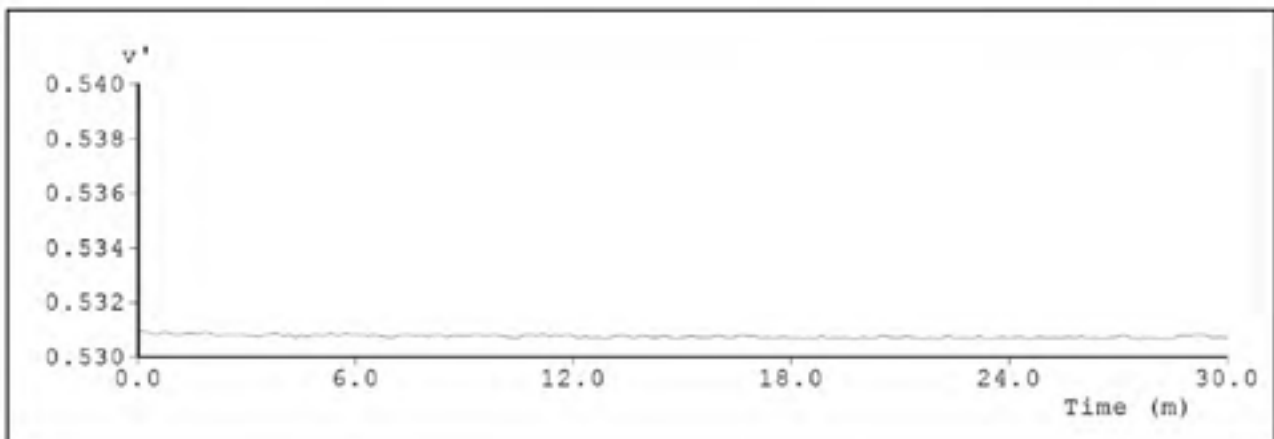
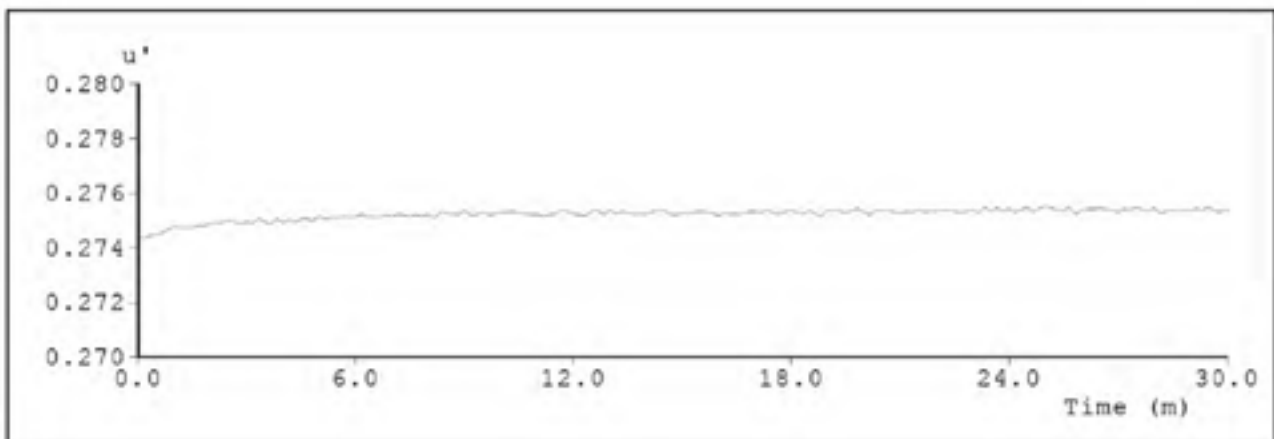
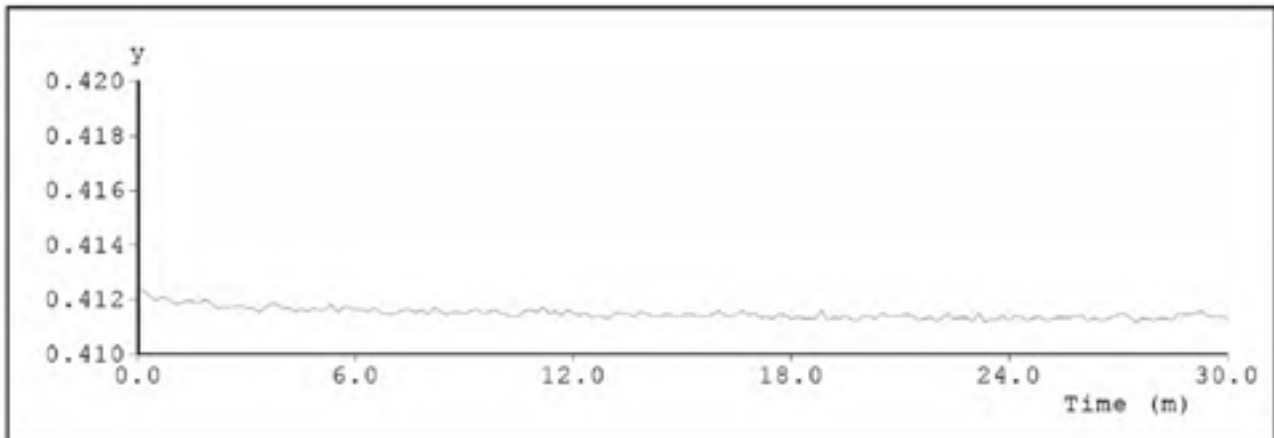
146	00h24m20s	0.2609	23.998	6.2611	303.84	0.4803	0.4114	0.2754	0.5307	2444	93.7
147	00h24m30s	0.2609	23.998	6.2611	303.65	0.4803	0.4112	0.2755	0.5307	2442	93.7
148	00h24m40s	0.2609	23.998	6.2611	303.5	0.4801	0.4113	0.2753	0.5307	2446	93.8
149	00h24m50s	0.2609	23.998	6.2611	303.57	0.4804	0.4114	0.2754	0.5307	2443	93.7
150	00h25m00s	0.2609	23.998	6.2611	303.25	0.4804	0.4112	0.2755	0.5307	2442	93.7
151	00h25m10s	0.2609	23.998	6.2611	303.55	0.4803	0.4113	0.2755	0.5307	2443	93.7
152	00h25m20s	0.2609	23.998	6.2611	303.48	0.4802	0.4113	0.2754	0.5307	2444	93.7
153	00h25m30s	0.2609	23.998	6.2611	303.19	0.4802	0.4113	0.2754	0.5307	2445	93.7
154	00h25m40s	0.2609	23.998	6.2611	303.09	0.4804	0.4113	0.2755	0.5307	2442	93.7
155	00h25m50s	0.2609	23.998	6.2611	303.6	0.48	0.4114	0.2752	0.5307	2447	93.7
156	00h26m00s	0.2609	23.998	6.2611	303.31	0.4803	0.4114	0.2754	0.5308	2444	93.7
157	00h26m10s	0.2609	23.998	6.2611	303.19	0.4802	0.4112	0.2754	0.5307	2444	93.7
158	00h26m20s	0.2609	23.998	6.2611	303.47	0.4803	0.4113	0.2754	0.5307	2444	93.7
159	00h26m30s	0.2609	23.998	6.2611	303.25	0.4803	0.4112	0.2755	0.5307	2443	93.7
160	00h26m40s	0.2609	23.998	6.2611	303.17	0.4802	0.4113	0.2754	0.5307	2444	93.7
161	00h26m50s	0.2609	23.998	6.2611	303.14	0.4803	0.4114	0.2754	0.5307	2444	93.7
162	00h27m00s	0.2609	23.998	6.2611	303.33	0.4802	0.4114	0.2753	0.5307	2446	93.7
163	00h27m10s	0.2609	23.998	6.2611	303.09	0.4804	0.4115	0.2754	0.5308	2443	93.7
164	00h27m20s	0.2609	23.998	6.2611	303.18	0.4803	0.4113	0.2754	0.5307	2444	93.7
165	00h27m30s	0.2609	23.998	6.2611	302.93	0.4803	0.4112	0.2755	0.5306	2442	93.7
166	00h27m40s	0.2609	23.998	6.2611	303.06	0.4803	0.4113	0.2754	0.5307	2444	93.7
167	00h27m50s	0.2608	23.998	6.2587	303.1	0.4801	0.4113	0.2753	0.5307	2445	93.7
168	00h28m00s	0.2609	23.998	6.2611	302.97	0.4803	0.4113	0.2755	0.5307	2443	93.7
169	00h28m10s	0.2608	23.998	6.2587	303.03	0.48	0.4113	0.2753	0.5307	2446	93.7
170	00h28m20s	0.2608	23.998	6.2587	303.04	0.4801	0.4113	0.2753	0.5307	2445	93.7
171	00h28m30s	0.2608	23.998	6.2587	302.87	0.4802	0.4112	0.2754	0.5307	2444	93.6
172	00h28m40s	0.2608	23.998	6.2587	303.29	0.4803	0.4115	0.2753	0.5308	2445	93.7
173	00h28m50s	0.2608	23.998	6.2587	303.13	0.4803	0.4114	0.2754	0.5308	2444	93.7
174	00h29m00s	0.2608	23.998	6.2587	303.41	0.4803	0.4114	0.2754	0.5308	2444	93.7
175	00h29m10s	0.2608	23.998	6.2587	303.21	0.4805	0.4115	0.2754	0.5308	2443	93.6
176	00h29m20s	0.2608	23.998	6.2587	303.13	0.4804	0.4116	0.2754	0.5308	2444	93.7

177	00h29m30s	0.2608	23.998	6.2587	303.05	0.4804	0.4113	0.2755	0.5307	2442	93.6
178	00h29m40s	0.2608	23.998	6.2587	303.1	0.4802	0.4113	0.2753	0.5307	2445	93.7
179	00h29m50s	0.2608	23.998	6.2587	302.84	0.4802	0.4114	0.2753	0.5307	2445	93.8
180	00h30m00s	0.2608	23.998	6.2587	303.16	0.4802	0.4113	0.2754	0.5307	2444	93.7

Test curves

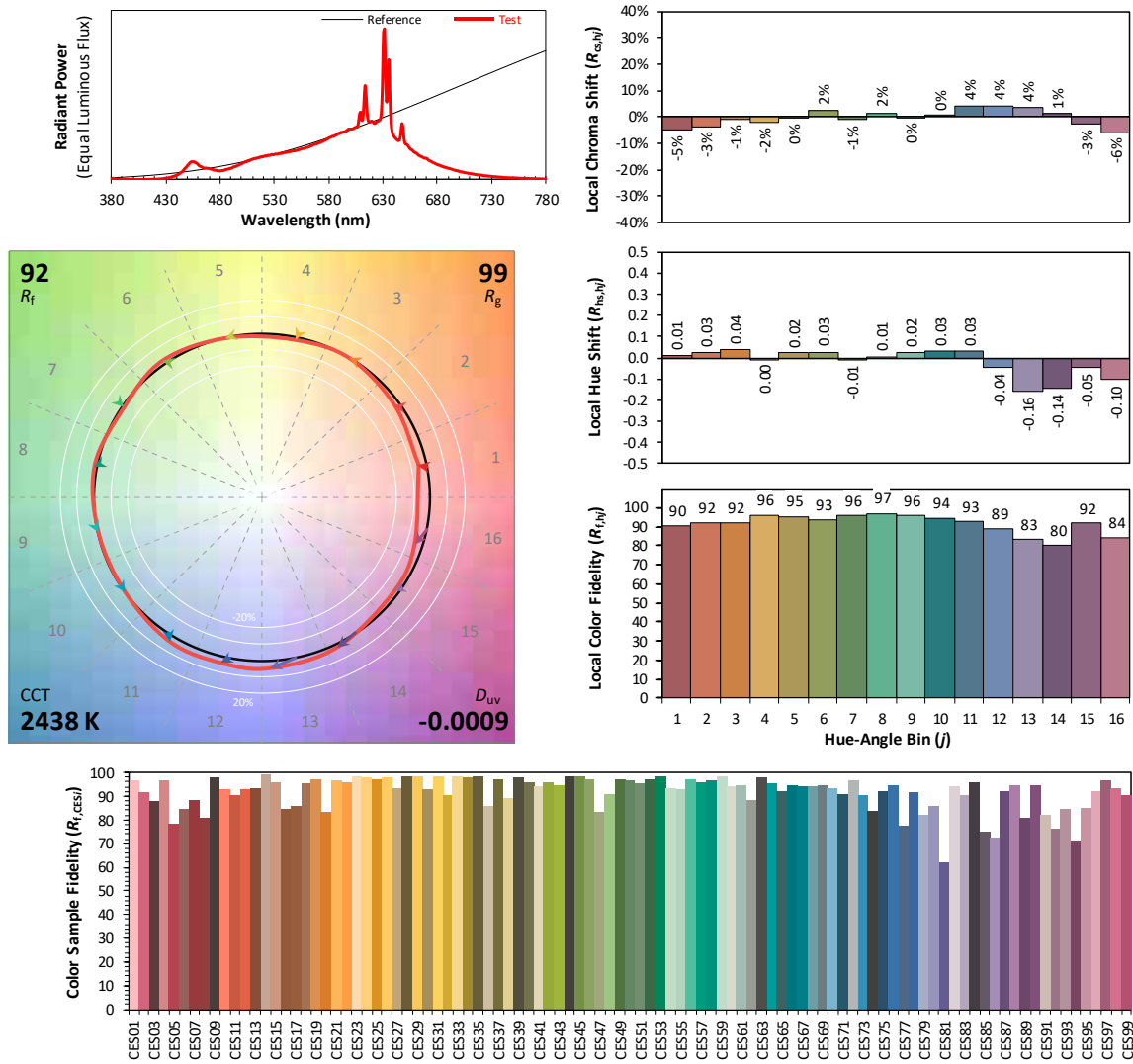






***5.2 ANSI/IES TM-30-18 Color Rendition Report**
ANSI/IES TM-30-18 Color Rendition Report

Source: Manufacturer:
Date: 2023/7/3 Model: LFUMAY-T1000WL-L27-DF-0-6 24V 6W/m



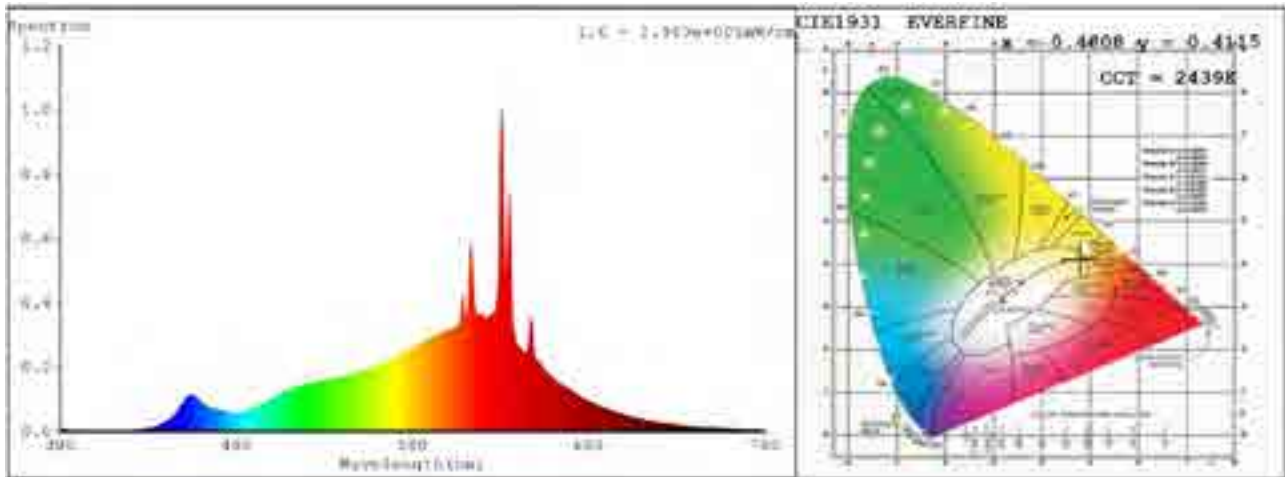
Notes: This is a recommended method for displaying ANSI/IES TM-30-18 information.

x **0.4808**
 y **0.4114**
 u' **0.2757**
 v' **0.5308**

CIE 13.3-1995 (CRI)	
R_a	94
R_g	57

Colors are for visual orientation purposes only. Created with the ANSI/IES TM-30-18 Calculator Version 2.00.

5.3 Relative Spectral Power Distribution



nm	mW	nm	mW	nm	mW	nm	mW	nm	mW
380	0.0063	414	0.0029	448	0.0747	482	0.057	516	0.1398
381	0.0084	415	0.0013	449	0.0828	483	0.0586	517	0.14
382	0.0086	416	0.0019	450	0.0912	484	0.0606	518	0.1438
383	0	417	0.0031	451	0.098	485	0.0645	519	0.1433
384	0.0021	418	0.0027	452	0.1064	486	0.0646	520	0.1459
385	0.0025	419	0.0041	453	0.1107	487	0.0671	521	0.1483
386	0.0012	420	0.003	454	0.1122	488	0.0679	522	0.1463
387	0.0016	421	0.0038	455	0.1103	489	0.071	523	0.1497
388	0.0009	422	0.0045	456	0.111	490	0.0721	524	0.1521
389	0.0012	423	0.004	457	0.105	491	0.0752	525	0.1519
390	0.0015	424	0.0057	458	0.1025	492	0.08	526	0.1524
391	0.0015	425	0.0055	459	0.0967	493	0.0813	527	0.1563
392	0.0019	426	0.0066	460	0.089	494	0.0835	528	0.1563
393	0.0015	427	0.0061	461	0.0849	495	0.0858	529	0.1552
394	0.0036	428	0.0085	462	0.0811	496	0.09	530	0.1588
395	0.0024	429	0.009	463	0.0782	497	0.092	531	0.1594
396	0.0014	430	0.0092	464	0.0738	498	0.0959	532	0.1586
397	0.0018	431	0.0099	465	0.0725	499	0.0987	533	0.1603
398	0.0018	432	0.0124	466	0.0726	500	0.102	534	0.1633
399	0.0027	433	0.0136	467	0.0718	501	0.1047	535	0.1629
400	0.0012	434	0.0152	468	0.0706	502	0.1087	536	0.1643
401	0.0004	435	0.0174	469	0.0707	503	0.1116	537	0.1646
402	0.0013	436	0.0204	470	0.0683	504	0.1115	538	0.1679
403	0.0012	437	0.0214	471	0.0664	505	0.118	539	0.1687
404	0.0008	438	0.0238	472	0.0649	506	0.118	540	0.1693
405	0.0006	439	0.0272	473	0.0632	507	0.1203	541	0.1707
406	0.0017	440	0.029	474	0.0599	508	0.1247	542	0.1729
407	0.0001	441	0.0339	475	0.0593	509	0.1263	543	0.1751
408	0.0015	442	0.0363	476	0.0593	510	0.1287	544	0.1735
409	0.0011	443	0.0421	477	0.0555	511	0.1314	545	0.1773
410	0.0017	444	0.0472	478	0.0558	512	0.1327	546	0.1784
411	0.002	445	0.0511	479	0.0546	513	0.1333	547	0.1796
412	0.0014	446	0.0597	480	0.0552	514	0.1355	548	0.1802
413	0.0016	447	0.0681	481	0.0564	515	0.1368	549	0.1811

nm	mW	nm	mW	nm	mW	nm	mW	nm	mW
550	0.183	599	0.3143	648	0.3213	697	0.0567	746	0.0124
551	0.1836	600	0.3146	649	0.2531	698	0.0563	747	0.0118
552	0.1873	601	0.3154	650	0.2247	699	0.0534	748	0.0117
553	0.1885	602	0.3162	651	0.2191	700	0.0517	749	0.0117
554	0.1904	603	0.321	652	0.2169	701	0.0501	750	0.0114
555	0.1934	604	0.3244	653	0.2075	702	0.0484	751	0.0114
556	0.1938	605	0.3271	654	0.1969	703	0.047	752	0.011
557	0.1946	606	0.3279	655	0.1888	704	0.0456	753	0.0107
558	0.1972	607	0.3559	656	0.1874	705	0.0441	754	0.01
559	0.2006	608	0.4066	657	0.1804	706	0.043	755	0.0094
560	0.2015	609	0.4193	658	0.1728	707	0.042	756	0.0094
561	0.2032	610	0.369	659	0.1695	708	0.0399	757	0.0091
562	0.2062	611	0.3731	660	0.1651	709	0.0391	758	0.0087
563	0.2121	612	0.4723	661	0.1609	710	0.038	759	0.0089
564	0.2116	613	0.5835	662	0.1535	711	0.0377	760	0.0092
565	0.2158	614	0.5208	663	0.15	712	0.0362	761	0.0084
566	0.2187	615	0.4091	664	0.1456	713	0.0344	762	0.0081
567	0.2214	616	0.3653	665	0.1439	714	0.0337	763	0.0079
568	0.2218	617	0.3586	666	0.1395	715	0.0322	764	0.0078
569	0.2243	618	0.3605	667	0.1365	716	0.0311	765	0.0074
570	0.2287	619	0.3643	668	0.133	717	0.0306	766	0.0072
571	0.2297	620	0.3603	669	0.134	718	0.0303	767	0.0071
572	0.2323	621	0.3537	670	0.1309	719	0.0291	768	0.007
573	0.2381	622	0.3491	671	0.124	720	0.029	769	0.0063
574	0.2374	623	0.3551	672	0.1197	721	0.0273	770	0.0064
575	0.2424	624	0.3601	673	0.116	722	0.0255	771	0.0059
576	0.2451	625	0.3634	674	0.1129	723	0.0249	772	0.0061
577	0.2481	626	0.3688	675	0.1088	724	0.0245	773	0.0057
578	0.2519	627	0.3739	676	0.1054	725	0.0243	774	0.0057
579	0.2553	628	0.4143	677	0.1026	726	0.0234	775	0.0055
580	0.2612	629	0.5784	678	0.0987	727	0.0222	776	0.0051
581	0.2632	630	0.9098	679	0.0962	728	0.0219	777	0.0052
582	0.2661	631	0.9342	680	0.0924	729	0.0213	778	0.005
583	0.2697	632	0.6163	681	0.092	730	0.0203	779	0.0054
584	0.2695	633	0.4821	682	0.0881	731	0.0195	780	0.0054
585	0.2738	634	0.6242	683	0.0861	732	0.0191		
586	0.2765	635	0.7428	684	0.0834	733	0.0187		
587	0.2805	636	0.5154	685	0.0811	734	0.0183		
588	0.2859	637	0.3504	686	0.0775	735	0.017		
589	0.2882	638	0.2988	687	0.0773	736	0.0163		
590	0.2874	639	0.2777	688	0.0745	737	0.0164		
591	0.2951	640	0.2671	689	0.0729	738	0.0161		
592	0.294	641	0.258	690	0.0705	739	0.0158		
593	0.2963	642	0.252	691	0.0696	740	0.0146		
594	0.298	643	0.2449	692	0.0666	741	0.0138		
595	0.2997	644	0.2432	693	0.0653	742	0.0134		
596	0.3048	645	0.2499	694	0.0624	743	0.0134		
597	0.3099	646	0.2854	695	0.0604	744	0.0129		
598	0.3145	647	0.3478	696	0.0589	745	0.0128		

6. Goniophotometer Test results

6.1 Test Data

Test Ambient Temperature	25.2°C	Test orientation	Downward
Operate time(Min.)	90	stabilization time(Min.)	30

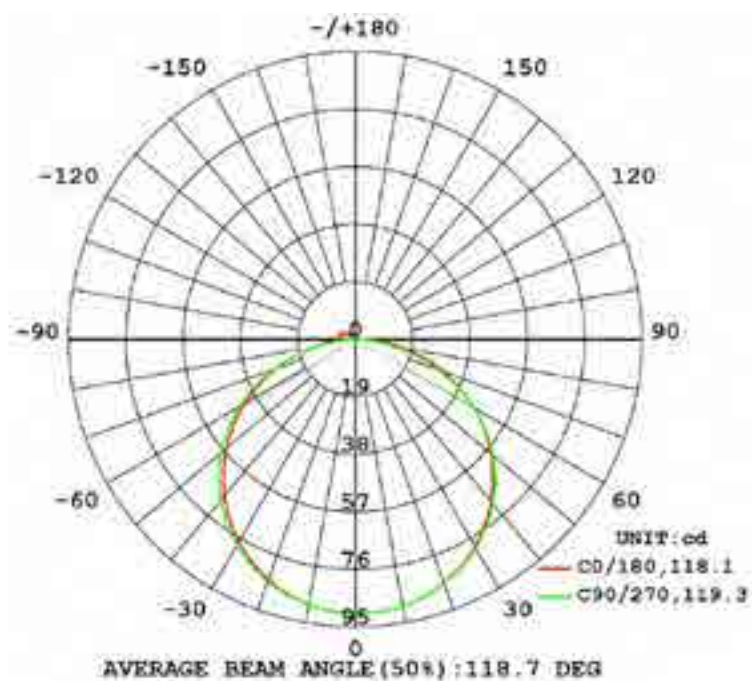
Electrical Measurement

Input Voltage (V)	Frequency (Hz)	Input Current(A)	Power Factor	Power(W)
24	--	0.258	1.0000	6.192

Optical Measurement

Luminous Flux (lm)	Efficacy(lm/W)	I _{max} (cd)	η up (%)	η down (%)
287.74	46.47	90.58	2.4	97.6

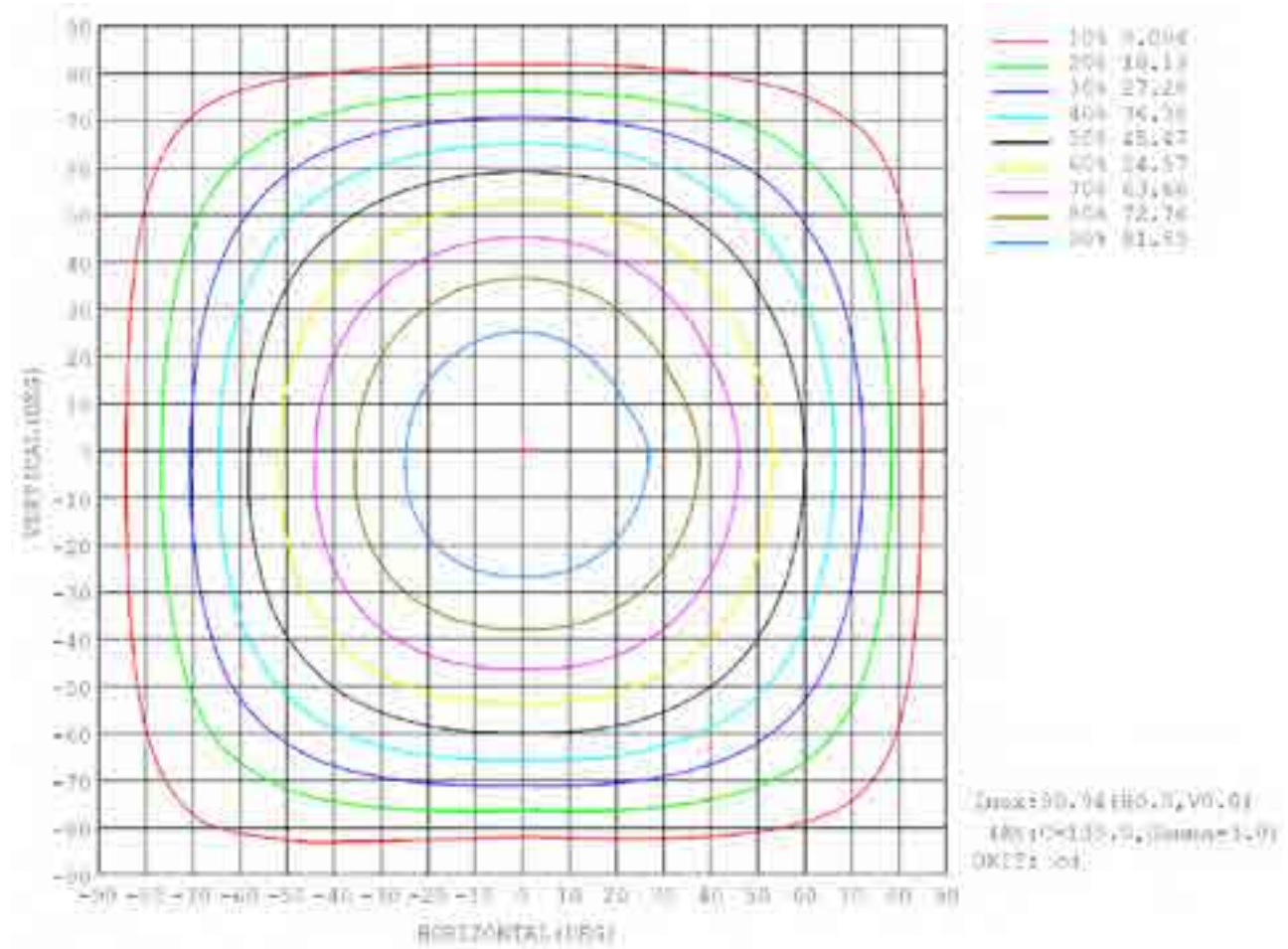
6.2 Luminous Intensity Distribution



6.3 Zonal Flux Diagram

Q	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q	Q1	Q2	Q3
10	88.40	88.40	88.40	88.40	88.40	88.40	88.40	88.40	0.00	88.40	88.40	88.40
20	88.40	88.40	88.40	88.40	88.40	88.40	88.40	88.40	0.00	88.40	88.40	88.40
30	88.40	88.40	88.40	88.40	88.40	88.40	88.40	88.40	0.00	88.40	88.40	88.40
40	88.40	88.40	88.40	88.40	88.40	88.40	88.40	88.40	0.00	88.40	88.40	88.40
50	88.40	88.40	88.40	88.40	88.40	88.40	88.40	88.40	0.00	88.40	88.40	88.40
60	88.40	88.40	88.40	88.40	88.40	88.40	88.40	88.40	0.00	88.40	88.40	88.40
70	88.40	88.40	88.40	88.40	88.40	88.40	88.40	88.40	0.00	88.40	88.40	88.40
80	88.40	88.40	88.40	88.40	88.40	88.40	88.40	88.40	0.00	88.40	88.40	88.40
90	88.40	88.40	88.40	88.40	88.40	88.40	88.40	88.40	0.00	88.40	88.40	88.40
100	88.40	88.40	88.40	88.40	88.40	88.40	88.40	88.40	0.00	88.40	88.40	88.40
110	88.40	88.40	88.40	88.40	88.40	88.40	88.40	88.40	0.00	88.40	88.40	88.40
120	88.40	88.40	88.40	88.40	88.40	88.40	88.40	88.40	0.00	88.40	88.40	88.40
130	88.40	88.40	88.40	88.40	88.40	88.40	88.40	88.40	0.00	88.40	88.40	88.40
140	88.40	88.40	88.40	88.40	88.40	88.40	88.40	88.40	0.00	88.40	88.40	88.40
150	88.40	88.40	88.40	88.40	88.40	88.40	88.40	88.40	0.00	88.40	88.40	88.40
160	88.40	88.40	88.40	88.40	88.40	88.40	88.40	88.40	0.00	88.40	88.40	88.40
170	88.40	88.40	88.40	88.40	88.40	88.40	88.40	88.40	0.00	88.40	88.40	88.40
180	88.40	88.40	88.40	88.40	88.40	88.40	88.40	88.40	0.00	88.40	88.40	88.40
190	88.40	88.40	88.40	88.40	88.40	88.40	88.40	88.40	0.00	88.40	88.40	88.40
200	88.40	88.40	88.40	88.40	88.40	88.40	88.40	88.40	0.00	88.40	88.40	88.40
210	88.40	88.40	88.40	88.40	88.40	88.40	88.40	88.40	0.00	88.40	88.40	88.40
220	88.40	88.40	88.40	88.40	88.40	88.40	88.40	88.40	0.00	88.40	88.40	88.40
230	88.40	88.40	88.40	88.40	88.40	88.40	88.40	88.40	0.00	88.40	88.40	88.40
240	88.40	88.40	88.40	88.40	88.40	88.40	88.40	88.40	0.00	88.40	88.40	88.40
250	88.40	88.40	88.40	88.40	88.40	88.40	88.40	88.40	0.00	88.40	88.40	88.40
260	88.40	88.40	88.40	88.40	88.40	88.40	88.40	88.40	0.00	88.40	88.40	88.40
270	88.40	88.40	88.40	88.40	88.40	88.40	88.40	88.40	0.00	88.40	88.40	88.40
280	88.40	88.40	88.40	88.40	88.40	88.40	88.40	88.40	0.00	88.40	88.40	88.40
290	88.40	88.40	88.40	88.40	88.40	88.40	88.40	88.40	0.00	88.40	88.40	88.40
300	88.40	88.40	88.40	88.40	88.40	88.40	88.40	88.40	0.00	88.40	88.40	88.40

6.4 Isocandela Diagram



6.5 Luminous Distribution Intensity Data

Table 6-1																	UNIT: cd		
C (DEG)	0	22.5	45	67.5	90	112.5	135	157.5	180	202.5	225	247.5	270	292.5	315	337.5			
(DEG)																			
0	90.5	90.5	90.5	90.5	90.5	90.5	90.5	90.5	90.5	90.5	90.5	90.5	90.5	90.5	90.5	90.5			
5	90.3	90.3	90.3	90.3	90.3	90.4	90.5	90.4	90.3	90.0	90.0	90.0	90.1	90.0	90.0	90.0			
10	89.5	89.6	89.6	89.5	89.5	89.6	89.8	89.5	88.9	88.9	88.9	88.8	89.0	88.9	88.8	88.9			
15	87.9	88.0	88.2	88.1	88.0	88.2	88.4	88.0	87.0	87.0	87.1	87.2	87.3	87.2	87.0	87.1			
20	85.7	85.9	86.0	86.0	85.9	86.1	86.3	85.8	84.4	84.4	84.6	84.8	85.0	84.8	84.5	84.5			
25	82.7	83.0	83.3	83.3	83.1	83.4	83.5	82.9	81.2	81.1	81.4	81.8	82.1	81.8	81.7	81.3			
30	79.1	79.4	79.8	79.9	79.6	80.0	80.1	79.2	77.2	77.2	77.7	78.1	78.5	78.2	77.5	77.5			
35	74.8	75.2	75.7	75.9	75.6	76.0	76.0	75.0	72.7	72.7	73.3	73.9	74.3	73.9	73.2	73.0			
40	69.9	70.4	71.0	71.2	70.8	71.3	71.3	70.1	67.5	67.6	68.3	69.0	69.4	69.0	68.2	68.0			
45	64.5	65.0	65.7	65.9	65.4	66.0	66.0	64.8	61.9	62.0	62.8	63.5	64.0	63.4	62.6	62.4			
50	58.5	59.1	59.8	60.0	59.4	60.1	60.2	58.8	55.8	56.0	56.7	57.5	58.0	57.6	56.5	56.3			
55	52.2	52.7	53.3	53.5	52.7	53.5	53.8	52.4	49.2	49.4	50.2	50.9	51.4	51.0	49.9	49.8			
60	45.4	45.9	46.3	46.3	45.4	46.4	46.8	45.6	42.4	42.5	43.1	43.8	44.2	43.9	42.9	42.8			
65	38.3	38.6	38.9	38.7	37.5	38.7	39.4	38.4	35.1	35.2	35.7	36.2	36.5	36.4	35.4	35.6			
70	30.8	31.1	31.1	30.5	29.1	30.6	31.6	30.8	27.7	27.7	28.0	28.2	28.4	28.4	27.7	28.0			
75	23.3	23.3	23.0	22.1	20.5	22.1	23.6	23.2	20.2	20.1	20.0	20.0	20.0	20.2	19.0	20.4			
80	15.8	15.7	15.0	13.7	12.1	13.9	15.9	15.8	13.0	12.9	12.3	12.0	11.9	12.2	12.0	13.0			
85	8.84	8.57	7.82	6.41	4.94	6.93	8.31	8.21	6.22	7.81	6.92	4.93	4.94	5.34	5.63	6.36			
90	3.75	3.53	2.72	1.83	0.76	3.23	5.36	6.31	0.58	0.69	0.99	2.02	0.95	1.04	0.15	0.43			
95	0.04	0.04	0.06	0.28	0.05	0.79	0.05	0.05	0.18	0.22	1.91	0.87	0.05	0.26	0.65	0.20			
100	0.65	0.83	0.86	0.36	0.07	1.50	3.90	5.43	5.77	5.42	3.85	1.95	0.26	0.69	0.68	0.71			
105	0.43	0.59	0.71	0.78	0.70	1.69	4.15	5.37	5.72	5.37	3.96	1.52	0.41	0.63	0.63	0.56			
110	0.38	0.49	0.66	0.68	0.67	1.19	3.93	5.15	5.48	5.08	3.69	1.05	0.58	0.58	0.59	0.50			
115	0.36	0.40	0.59	0.63	0.62	0.92	3.46	4.74	5.05	4.55	3.11	0.75	0.54	0.53	0.52	0.44			
120	0.33	0.32	0.52	0.58	0.57	0.72	2.64	4.14	4.42	3.90	2.25	0.61	0.50	0.49	0.47	0.35			
125	0.27	0.25	0.44	0.51	0.52	0.57	1.92	3.32	3.57	2.97	1.65	0.52	0.46	0.45	0.41	0.28			
130	0.24	0.23	0.36	0.41	0.43	0.46	1.35	2.39	2.56	2.15	1.11	0.38	0.41	0.38	0.38	0.23			
135	0.20	0.20	0.29	0.36	0.35	0.30	0.98	1.78	1.91	1.52	0.83	0.31	0.37	0.34	0.33	0.21			
140	0.20	0.19	0.21	0.29	0.27	0.31	0.72	1.22	1.29	1.03	0.67	0.16	0.31	0.14	0.29	0.20			
145	0.19	0.18	0.11	0.22	0.09	0.23	0.47	0.90	0.95	0.82	0.47	0.29	0.11	0.30	0.15	0.19			
150	0.17	0.17	0.10	0.16	0.09	0.17	0.10	0.62	0.69	0.60	0.12	0.25	0.23	0.26	0.22	0.13			
155	0.10	0.10	0.15	0.14	0.10	0.14	0.17	0.35	0.40	0.22	0.13	0.22	0.21	0.23	0.20	0.18			
160	0.16	0.16	0.15	0.14	0.10	0.14	0.18	0.11	0.15	0.16	0.22	0.18	0.18	0.15	0.18	0.18			
165	0.18	0.18	0.15	0.14	0.10	0.14	0.18	0.18	0.21	0.21	0.19	0.17	0.18	0.12	0.16	0.18			
170	0.18	0.15	0.13	0.13	0.10	0.14	0.15	0.15	0.17	0.17	0.17	0.17	0.15	0.12	0.16	0.17			
175	0.17	0.14	0.15	0.11	0.12	0.13	0.15	0.15	0.17	0.17	0.16	0.16	0.15	0.13	0.13	0.13			
180	0.12	0.12	0.12	0.12	0.12	0.12	0.15	0.15	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.13			

7. Photo of sample

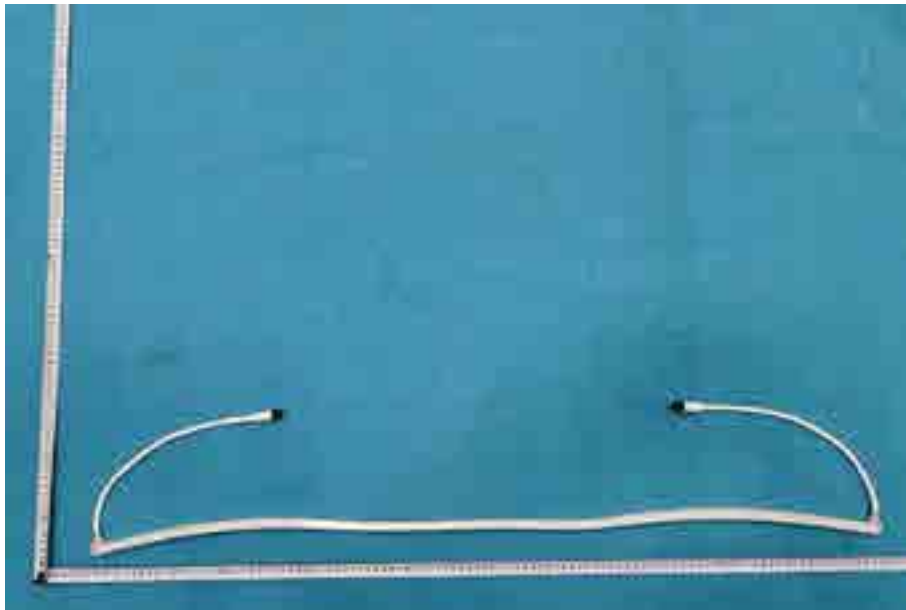


Figure 1 Overview

---End of Report---



Test Report Of ANSI/IES LM-79-19

APPROVED METHOD FOR OPTICAL AND ELECTRICAL MEASUREMENTS OF SOLID-STATE LIGHTING PRODUCTS

Report Number..... : N02A23060187L00701

Client..... : Luci Pte. Ltd.

Address..... : 52A Tanjong Pagar Road, Singapore 088473

Test Model..... : LFUMAY-T1000WL-L27-DF-O-10 24V 10W/m

Brand Name..... : N/A

Testing Laboratory... : Guangdong Meide Testing Technology Co., Ltd.

Address..... : 1st floor, B Area, Jinbaisheng Industrial Park, Headquarters 2 Road, Songshan
Lake Hi-tech Industrial Development Zone, Dongguan City, Guangdong Pr., China.

Testing Location..... : As above

Date of receipt..... : June. 17, 2023

Date of test : June. 26, 2023 – July. 04, 2023

Date of report..... : July. 04, 2023

Tested by:

Jarvis Zhang

Jarvis Zhang/ Test Engineer

Checked by:

Sandy Chen

Sandy Chen/ Project Engineer



Jessie Li/ Technical Manager

Note 1: The test data was only valid for the test sample(s). This test report is prepared for the customer shown above and for the device described herein. It may not be duplicated or used in part without prior written consent from Guangdong Meide Testing Technology Co., Ltd. This report must not be used by the customer to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the Federal Government.

Note 2: This report does not imply product certification, approval, or endorsement by NVLAP, NIST, or any agency of the Federal Government.

Note 3: This report contains data that are not covered by the NVLAP accreditation. It is marked * in the title.

1. Product Description for Equipment under Test (EUT)

Representative (Tested) Model: LFUMAY-T1000WL-L27-DF-O-10 24V 10W/m

Manufacturer:

Product Type: UQ mini

Rated Voltage/Frequency: DC24V

Rated Power: 10W

Rated luminous flux: /

Nominal CCT: 2700K

2. Standards Used

- ANSI/IES LM-79-19:APPROVED METHOD:OPTICAL AND ELECTRICAL MEASUREMENTS OF SOLID-STATE LIGHTING PRODUCTS
- IES TM-30-18 IES Method for Evaluating Light Source Color Rendition (This Method is not in Nvlap accreditation scope)

3. Test equipment list

Test Equipment	Serial No.	Model No.	Calibration due date
Full-field Speed Goniophotometer	MD-E028	GO-R5000	2023/09/17
Digital Power Meter	MD-E001	PF2010	2023/09/17
AC Testing Power Source	MD-E002	DPS1060	2023/09/17
Total Spectral Radiant Flux Standard Lamp	MD-E007	D908S	2023/10/13
Integrating Sphere System	MD-E029	2M	2023/09/17
High Accuracy Array Spectroradio Meter	MD-E011	HAAS-3000	2023/09/17
Digital Power Meter	MD-E008	PF310	2023/09/17
AC Testing Power Source	MD-E010	DPS1010	2023/09/17
Standard Lamp	MD-E036	D204	2023/10/13

Statement of Traceability: Guangdong Meide Testing Technology Co., Ltd. attested that all calibration has been performed using suitable standards traceable to national primary standards and International System of Unit(SI).

4. Test Method

Requirements of Ambient Condition

Product was tested with no seasoning. All stabilization and measurements were made in compliance with ANSI/IES LM-79-19. The product was operated at rated voltage or at voltage required by manufacturer. The ambient temperature of the sample was maintained at $25^{\circ}\text{C} \pm 1.2^{\circ}\text{C}$ during measurement. And relative humidity between 10% and 65%.

Goniophotometer System

The sample was tested according to the ANSI/IES LM-79-19.

Photometric parameters were measured using a type C goniophotometer and software. The samples were operated at rated voltage and was stabilized before measurement. Luminous flux, Luminous efficacy, zonal flux were calculated from the software taken at 1° vertical intervals and 22.5° horizontal intervals. Photometric distance was more than five times of the Largest dimension of the test SSL product.

Integrating Sphere System

The sample was tested according to the ANSI/IES LM-79-19.

The sample measurements were made using a spectroradiometer connected by a fiber optic cable and detector through the detector port of the integrating sphere. Coating reflectance of the integrating sphere was 90% to 98%. Photometric measurement conditions was using 4π geometry. The self-absorption factor is applied in the final test result. The sample was operated at rated voltage and was stabilized before measurement. Chromaticity coordinates, correlated color temperature and color rendering index were calculated from the spectral radiant flux measurements taken at 1 nm intervals over the range of 380 to 780 nm.

Fidelity Index (R_f) and Gamut Index (R_g) Calculation

The R_f , R_g was calculated according to IES TM-30-18 by using calculation tools. The calculation was based on the measured SPD from 380nm to 780nm with 1nm intervals. All the colors in this report is for reference only.

5. Integrating Sphere Test Results

5.1 Test Data

Test Ambient Temperature (Integrating sphere internal temperature)	25.1℃	Test orientation	Downward
Operate time(Min.)	30	stabilization time(Min.)	0

Optical and Electrical Measurement Result

Number	Time	Current (A)	Voltage (V)	Power (W)	Flux(lm)	x	y	u'	v'	CCT (K)	Ra
0	00h00m00s	0.4113	23.998	9.8704	485.32	0.4791	0.4129	0.2739	0.5311	2468	93.6
1	00h00m10s	0.4082	23.998	9.796	484.85	0.479	0.4129	0.2738	0.5311	2471	93.6
2	00h00m20s	0.407	23.998	9.7672	482.58	0.4792	0.4129	0.274	0.5311	2468	93.5
3	00h00m30s	0.4061	23.998	9.7456	480.62	0.4791	0.4124	0.2742	0.5309	2465	93.5
4	00h00m40s	0.4054	23.998	9.7288	478.91	0.4793	0.4125	0.2742	0.531	2464	93.5
5	00h00m50s	0.4048	23.998	9.7144	477.49	0.4792	0.4123	0.2743	0.5309	2463	93.5
6	00h01m00s	0.4042	23.998	9.7	476.07	0.4794	0.4124	0.2743	0.531	2462	93.5
7	00h01m10s	0.4038	23.998	9.6904	475.54	0.4794	0.4124	0.2743	0.531	2462	93.5
8	00h01m20s	0.4033	23.998	9.6784	474.76	0.4792	0.4123	0.2743	0.5309	2463	93.5
9	00h01m30s	0.403	23.998	9.6712	473.34	0.4794	0.4121	0.2745	0.5309	2460	93.5
10	00h01m40s	0.4027	23.998	9.664	472.73	0.4794	0.4121	0.2745	0.5309	2459	93.5
11	00h01m50s	0.4024	23.998	9.6568	471.67	0.4794	0.4121	0.2745	0.5309	2460	93.5
12	00h02m00s	0.4021	23.998	9.6496	470.8	0.4795	0.412	0.2746	0.5308	2458	93.5
13	00h02m10s	0.4018	23.998	9.6424	470.51	0.4796	0.412	0.2746	0.5309	2457	93.4
14	00h02m20s	0.4016	23.998	9.6376	469.29	0.4796	0.412	0.2747	0.5308	2456	93.5
15	00h02m30s	0.4014	23.998	9.6328	469.4	0.4795	0.4121	0.2745	0.5309	2459	93.5
16	00h02m40s	0.4012	23.998	9.628	468.31	0.4796	0.4121	0.2746	0.5309	2457	93.5
17	00h02m50s	0.401	23.998	9.6232	467.97	0.4795	0.4119	0.2746	0.5308	2457	93.5
18	00h03m00s	0.4008	23.998	9.6184	467.56	0.4797	0.4118	0.2748	0.5308	2454	93.5
19	00h03m10s	0.4007	23.998	9.616	466.62	0.4797	0.4118	0.2748	0.5308	2454	93.4
20	00h03m20s	0.4005	23.998	9.6112	466.71	0.4797	0.412	0.2747	0.5309	2455	93.5
21	00h03m30s	0.4003	23.998	9.6064	465.95	0.4797	0.4119	0.2748	0.5309	2454	93.5

22	00h03m40s	0.4002	23.998	9.604	465.5	0.4799	0.412	0.2748	0.5309	2453	93.5
23	00h03m50s	0.4	23.998	9.5992	465.26	0.4796	0.4117	0.2748	0.5308	2455	93.5
24	00h04m00s	0.3999	23.998	9.5968	464.96	0.4797	0.4119	0.2748	0.5309	2455	93.5
25	00h04m10s	0.3998	23.998	9.5944	464.62	0.4798	0.4118	0.2749	0.5308	2453	93.5
26	00h04m20s	0.3997	23.998	9.592	464.04	0.4797	0.4116	0.2749	0.5307	2452	93.4
27	00h04m30s	0.3995	23.998	9.5872	463.68	0.4799	0.4119	0.2749	0.5309	2452	93.5
28	00h04m40s	0.3994	23.998	9.5848	463.19	0.4798	0.4117	0.2749	0.5308	2453	93.5
29	00h04m50s	0.3993	23.998	9.5824	463.21	0.4797	0.4118	0.2748	0.5308	2454	93.5
30	00h05m00s	0.3992	23.998	9.58	462.67	0.4799	0.4117	0.275	0.5308	2451	93.4
31	00h05m10s	0.3991	23.998	9.5776	462.45	0.4796	0.4115	0.2749	0.5307	2453	93.5
32	00h05m20s	0.399	23.998	9.5752	462.16	0.4797	0.4117	0.2749	0.5308	2453	93.6
33	00h05m30s	0.3989	23.998	9.5728	462.11	0.4798	0.4116	0.2749	0.5307	2452	93.4
34	00h05m40s	0.3988	23.998	9.5704	461.69	0.4798	0.4116	0.275	0.5307	2451	93.4
35	00h05m50s	0.3987	23.998	9.568	461.55	0.4798	0.4116	0.275	0.5308	2451	93.4
36	00h06m00s	0.3987	23.998	9.568	461.04	0.4799	0.4117	0.275	0.5308	2451	93.5
37	00h06m10s	0.3986	23.998	9.5656	460.8	0.48	0.4117	0.2751	0.5308	2449	93.4
38	00h06m20s	0.3985	23.998	9.5632	460.61	0.4799	0.4117	0.275	0.5308	2450	93.5
39	00h06m30s	0.3984	23.998	9.5608	460.66	0.4799	0.4117	0.275	0.5308	2450	93.5
40	00h06m40s	0.3984	23.998	9.5608	460.26	0.4798	0.4117	0.2749	0.5308	2452	93.5
41	00h06m50s	0.3983	23.998	9.5584	459.75	0.4798	0.4114	0.2751	0.5307	2450	93.5
42	00h07m00s	0.3982	23.998	9.556	460.22	0.4798	0.4116	0.275	0.5308	2451	93.5
43	00h07m10s	0.3982	23.998	9.556	459.83	0.4798	0.4116	0.275	0.5307	2451	93.5
44	00h07m20s	0.3981	23.998	9.5536	459.63	0.4798	0.4117	0.2749	0.5308	2452	93.5
45	00h07m30s	0.3981	23.998	9.5536	459.41	0.4799	0.4118	0.275	0.5308	2451	93.5
46	00h07m40s	0.398	23.998	9.5512	459.01	0.4801	0.4118	0.2751	0.5308	2449	93.5
47	00h07m50s	0.3979	23.998	9.5488	459.35	0.4799	0.4116	0.275	0.5307	2450	93.4
48	00h08m00s	0.3979	23.998	9.5488	459.11	0.4798	0.4116	0.275	0.5308	2451	93.5
49	00h08m10s	0.3978	23.998	9.5464	459.07	0.48	0.4116	0.2751	0.5308	2449	93.4
50	00h08m20s	0.3978	23.998	9.5464	458.62	0.48	0.4116	0.2752	0.5308	2448	93.4
51	00h08m30s	0.3977	23.998	9.544	458.64	0.48	0.4115	0.2752	0.5307	2448	93.5
52	00h08m40s	0.3977	23.998	9.544	458.56	0.4797	0.4115	0.275	0.5307	2451	93.4

53	00h08m50s	0.3977	23.998	9.544	458.37	0.4799	0.4114	0.2751	0.5307	2449	93.4
54	00h09m00s	0.3976	23.998	9.5416	458.13	0.48	0.4117	0.2751	0.5308	2449	93.5
55	00h09m10s	0.3976	23.998	9.5416	457.97	0.4798	0.4114	0.2751	0.5307	2450	93.4
56	00h09m20s	0.3975	23.998	9.5392	458	0.4801	0.4117	0.2751	0.5308	2448	93.5
57	00h09m30s	0.3975	23.998	9.5392	458.07	0.4799	0.4116	0.2751	0.5308	2449	93.5
58	00h09m40s	0.3975	23.998	9.5392	457.66	0.48	0.4116	0.2751	0.5308	2448	93.5
59	00h09m50s	0.3974	23.998	9.5368	457.75	0.4799	0.4114	0.2751	0.5307	2449	93.5
60	00h10m00s	0.3974	23.998	9.5368	458.07	0.4798	0.4116	0.275	0.5308	2451	93.5
61	00h10m10s	0.3974	23.998	9.5368	457.82	0.48	0.4115	0.2752	0.5307	2447	93.4
62	00h10m20s	0.3973	23.998	9.5344	457.63	0.48	0.4115	0.2752	0.5308	2448	93.5
63	00h10m30s	0.3973	23.998	9.5344	457.84	0.4799	0.4115	0.2751	0.5307	2449	93.5
64	00h10m40s	0.3973	23.998	9.5344	457.33	0.4799	0.4116	0.2751	0.5307	2450	93.5
65	00h10m50s	0.3972	23.998	9.532	457.16	0.48	0.4115	0.2751	0.5307	2448	93.4
66	00h11m00s	0.3972	23.998	9.532	457.43	0.4799	0.4116	0.275	0.5308	2450	93.5
67	00h11m10s	0.3972	23.998	9.532	457.29	0.48	0.4115	0.2751	0.5307	2448	93.4
68	00h11m20s	0.3972	23.998	9.532	456.98	0.4799	0.4115	0.2751	0.5307	2449	93.5
69	00h11m30s	0.3971	23.998	9.5296	457	0.48	0.4115	0.2752	0.5307	2448	93.5
70	00h11m40s	0.3971	23.998	9.5296	457.16	0.4798	0.4114	0.275	0.5307	2450	93.5
71	00h11m50s	0.3971	23.998	9.5296	456.91	0.4801	0.4115	0.2752	0.5308	2447	93.4
72	00h12m00s	0.3971	23.998	9.5296	457.03	0.4798	0.4116	0.275	0.5308	2451	93.5
73	00h12m10s	0.3971	23.998	9.5296	456.84	0.4799	0.4113	0.2752	0.5307	2448	93.4
74	00h12m20s	0.397	23.998	9.5272	456.69	0.48	0.4114	0.2752	0.5307	2448	93.4
75	00h12m30s	0.397	23.998	9.5272	456.52	0.4799	0.4114	0.2751	0.5307	2449	93.5
76	00h12m40s	0.397	23.998	9.5272	456.83	0.48	0.4116	0.2751	0.5308	2449	93.5
77	00h12m50s	0.397	23.998	9.5272	456.82	0.48	0.4116	0.2751	0.5308	2449	93.5
78	00h13m00s	0.3969	23.998	9.5248	456.86	0.4799	0.4116	0.275	0.5307	2450	93.5
79	00h13m10s	0.3969	23.998	9.5248	456.59	0.48	0.4115	0.2752	0.5307	2448	93.5
80	00h13m20s	0.3969	23.998	9.5248	456.34	0.48	0.4116	0.2751	0.5308	2449	93.5
81	00h13m30s	0.3969	23.998	9.5248	456.49	0.48	0.4115	0.2752	0.5307	2447	93.4
82	00h13m40s	0.3969	23.998	9.5248	456.42	0.4801	0.4115	0.2752	0.5308	2448	93.4
83	00h13m50s	0.3969	23.998	9.5248	456.48	0.4799	0.4113	0.2752	0.5306	2448	93.5

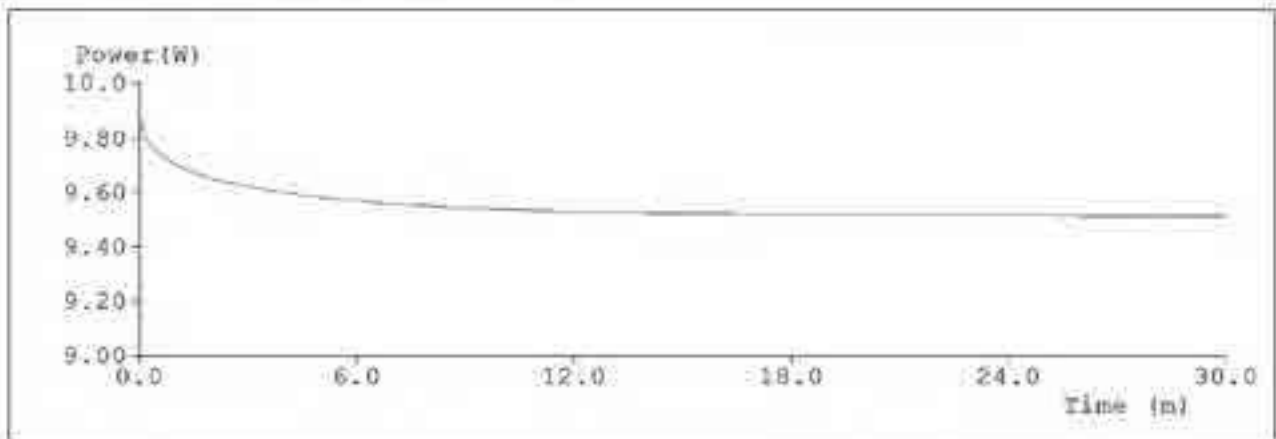
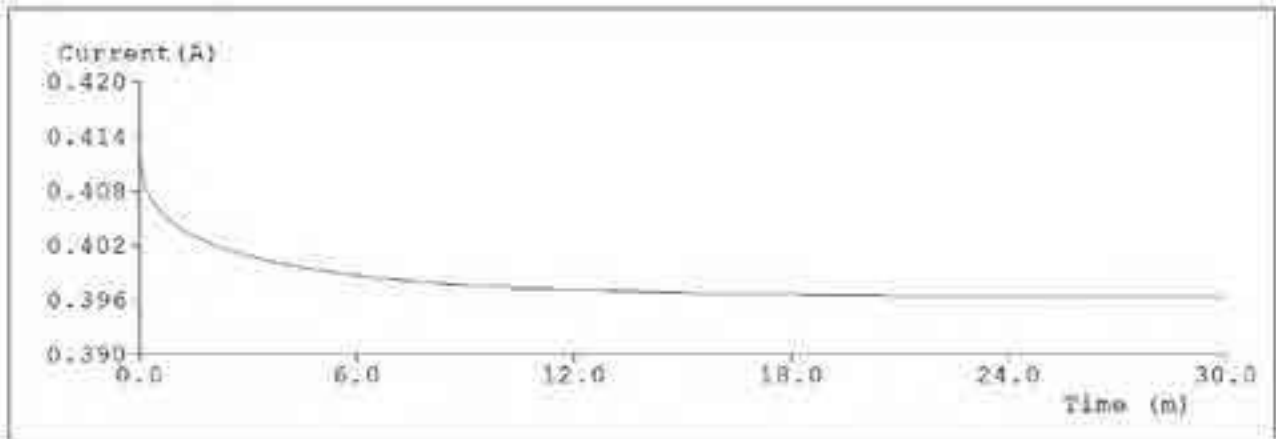
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86	00h14m20s	0.3968	23.998	9.5224	456.51	0.4799	0.4113	0.2751	0.5307	2448	93.5
87	00h14m30s	0.3968	23.998	9.5224	456.34	0.48	0.4114	0.2752	0.5307	2448	93.4
88	00h14m40s	0.3968	23.998	9.5224	456.17	0.4797	0.4113	0.2751	0.5306	2450	93.5
89	00h14m50s	0.3968	23.998	9.5224	456.38	0.4801	0.4116	0.2752	0.5308	2448	93.4
90	00h15m00s	0.3968	23.998	9.5224	455.95	0.4801	0.4114	0.2753	0.5307	2446	93.4
91	00h15m10s	0.3967	23.998	9.52	456.12	0.4799	0.4114	0.2751	0.5307	2449	93.4
92	00h15m20s	0.3967	23.998	9.52	456.26	0.48	0.4115	0.2751	0.5308	2448	93.4
93	00h15m30s	0.3967	23.998	9.52	456.07	0.4801	0.4116	0.2752	0.5308	2448	93.5
94	00h15m40s	0.3967	23.998	9.52	456.03	0.4801	0.4115	0.2752	0.5307	2447	93.5
95	00h15m50s	0.3967	23.998	9.52	456.27	0.48	0.4116	0.2751	0.5308	2449	93.5
96	00h16m00s	0.3967	23.998	9.52	456.02	0.48	0.4114	0.2752	0.5307	2447	93.5
97	00h16m10s	0.3967	23.998	9.52	455.97	0.4799	0.4114	0.2751	0.5307	2449	93.5
98	00h16m20s	0.3967	23.998	9.52	456.02	0.4799	0.4114	0.2751	0.5307	2449	93.4
99	00h16m30s	0.3966	23.998	9.5176	456.14	0.48	0.4114	0.2752	0.5307	2448	93.5
100	00h16m40s	0.3966	23.998	9.5176	456.16	0.4801	0.4114	0.2753	0.5307	2446	93.4
101	00h16m50s	0.3966	23.998	9.5176	455.77	0.48	0.4114	0.2752	0.5307	2448	93.5
102	00h17m00s	0.3966	23.998	9.5176	455.86	0.4801	0.4115	0.2752	0.5307	2447	93.5
103	00h17m10s	0.3966	23.998	9.5176	456.21	0.48	0.4115	0.2752	0.5307	2447	93.5
104	00h17m20s	0.3966	23.998	9.5176	455.8	0.4799	0.4113	0.2752	0.5307	2448	93.5
105	00h17m30s	0.3966	23.998	9.5176	455.8	0.4798	0.4113	0.2751	0.5306	2450	93.5
106	00h17m40s	0.3966	23.998	9.5176	455.61	0.4801	0.4114	0.2752	0.5307	2447	93.3
107	00h17m50s	0.3966	23.998	9.5176	455.95	0.4803	0.4116	0.2753	0.5308	2445	93.4
108	00h18m00s	0.3966	23.998	9.5176	455.76	0.4801	0.4115	0.2752	0.5307	2446	93.5
109	00h18m10s	0.3966	23.998	9.5176	455.98	0.4801	0.4115	0.2752	0.5307	2447	93.4
110	00h18m20s	0.3965	23.998	9.5152	455.64	0.4801	0.4115	0.2752	0.5308	2447	93.4
111	00h18m30s	0.3965	23.998	9.5152	455.85	0.48	0.4114	0.2752	0.5307	2447	93.5
112	00h18m40s	0.3965	23.998	9.5152	455.81	0.4799	0.4115	0.2751	0.5307	2449	93.5
113	00h18m50s	0.3965	23.998	9.5152	455.72	0.48	0.4113	0.2752	0.5307	2447	93.5
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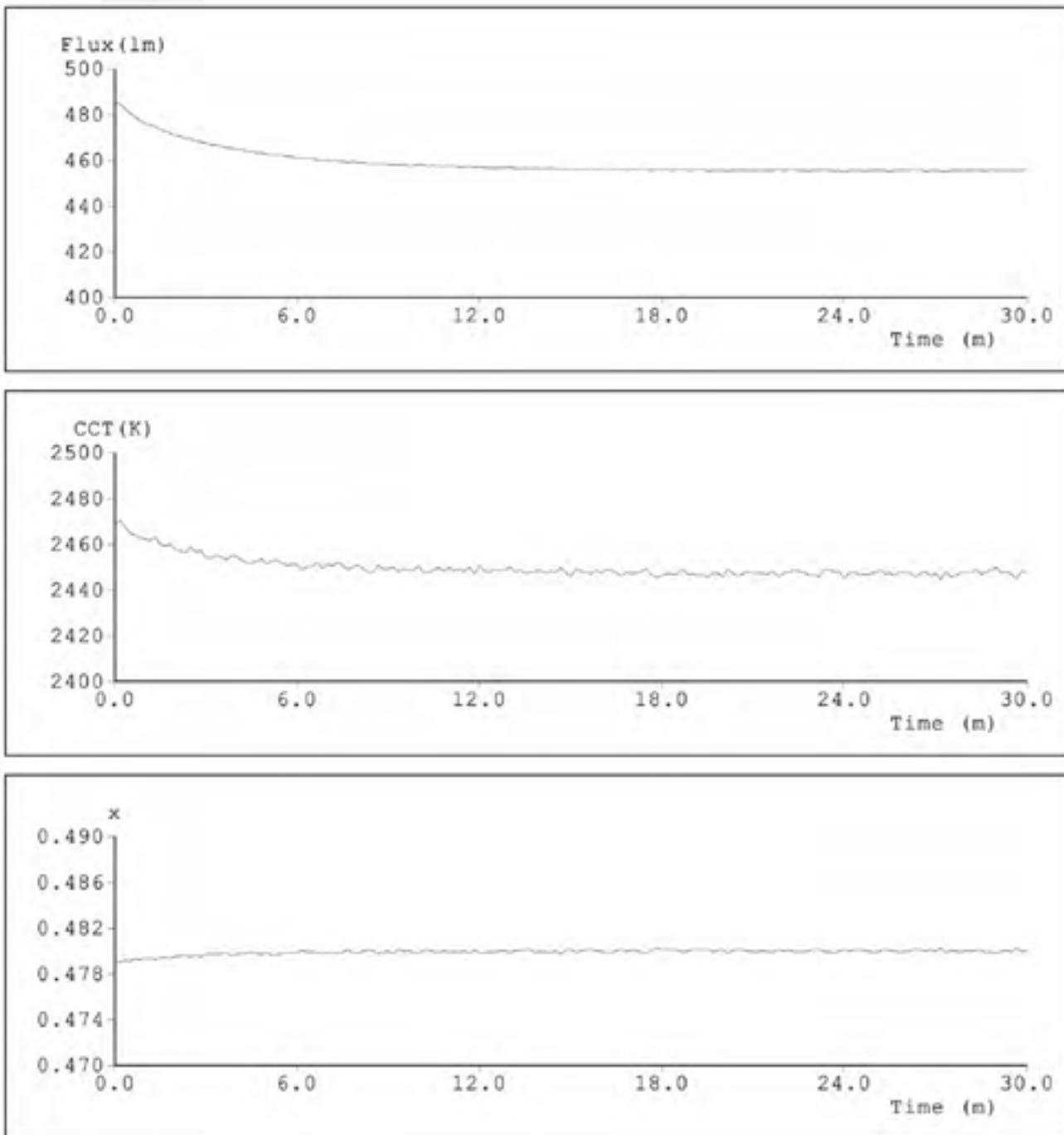
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117	00h19m30s	0.3965	23.998	9.5152	455.32	0.4801	0.4113	0.2753	0.5307	2445	93.4
118	00h19m40s	0.3965	23.998	9.5152	455.43	0.4799	0.4113	0.2752	0.5307	2447	93.4
119	00h19m50s	0.3965	23.998	9.5152	455.48	0.48	0.4115	0.2752	0.5307	2447	93.4
120	00h20m00s	0.3965	23.998	9.5152	455.4	0.4801	0.4114	0.2753	0.5307	2446	93.4
121	00h20m10s	0.3965	23.998	9.5152	455.39	0.4798	0.4113	0.2751	0.5306	2449	93.5
122	00h20m20s	0.3965	23.998	9.5152	455.55	0.48	0.4114	0.2752	0.5307	2447	93.4
123	00h20m30s	0.3965	23.998	9.5152	455.73	0.4801	0.4114	0.2753	0.5307	2446	93.4
124	00h20m40s	0.3964	23.998	9.5128	455.53	0.48	0.4115	0.2752	0.5307	2447	93.5
125	00h20m50s	0.3964	23.998	9.5128	455.47	0.48	0.4115	0.2752	0.5307	2448	93.5
126	00h21m00s	0.3964	23.998	9.5128	455.49	0.48	0.4113	0.2752	0.5307	2447	93.5
127	00h21m10s	0.3964	23.998	9.5128	455.55	0.4799	0.4113	0.2752	0.5307	2447	93.4
128	00h21m20s	0.3964	23.998	9.5128	455.64	0.48	0.4114	0.2752	0.5307	2447	93.4
129	00h21m30s	0.3964	23.998	9.5128	455.47	0.4799	0.4112	0.2752	0.5306	2447	93.4
130	00h21m40s	0.3964	23.998	9.5128	455.65	0.4799	0.4114	0.2751	0.5307	2448	93.5
131	00h21m50s	0.3964	23.998	9.5128	456.02	0.4801	0.4113	0.2753	0.5307	2446	93.4
132	00h22m00s	0.3964	23.998	9.5128	455.48	0.48	0.4114	0.2752	0.5307	2447	93.5
133	00h22m10s	0.3964	23.998	9.5128	455.82	0.48	0.4115	0.2752	0.5308	2448	93.5
134	00h22m20s	0.3964	23.998	9.5128	455.8	0.4799	0.4115	0.2751	0.5307	2449	93.5
135	00h22m30s	0.3964	23.998	9.5128	455.58	0.4799	0.4114	0.2751	0.5307	2448	93.5
136	00h22m40s	0.3964	23.998	9.5128	455.47	0.4799	0.4113	0.2752	0.5307	2448	93.4
137	00h22m50s	0.3964	23.998	9.5128	455.37	0.48	0.4112	0.2753	0.5306	2447	93.4
138	00h23m00s	0.3964	23.998	9.5128	455.6	0.4801	0.4115	0.2752	0.5308	2447	93.5
139	00h23m10s	0.3964	23.998	9.5128	455.57	0.4801	0.4113	0.2753	0.5307	2446	93.4
140	00h23m20s	0.3964	23.998	9.5128	455.8	0.4799	0.4115	0.2751	0.5307	2449	93.5
141	00h23m30s	0.3964	23.998	9.5128	455.66	0.4799	0.4115	0.2751	0.5307	2449	93.5
142	00h23m40s	0.3964	23.998	9.5128	455.36	0.4799	0.4113	0.2752	0.5306	2448	93.4
143	00h23m50s	0.3964	23.998	9.5128	455.47	0.48	0.4115	0.2752	0.5307	2448	93.5
144	00h24m00s	0.3964	23.998	9.5128	454.91	0.4801	0.4112	0.2753	0.5307	2445	93.5
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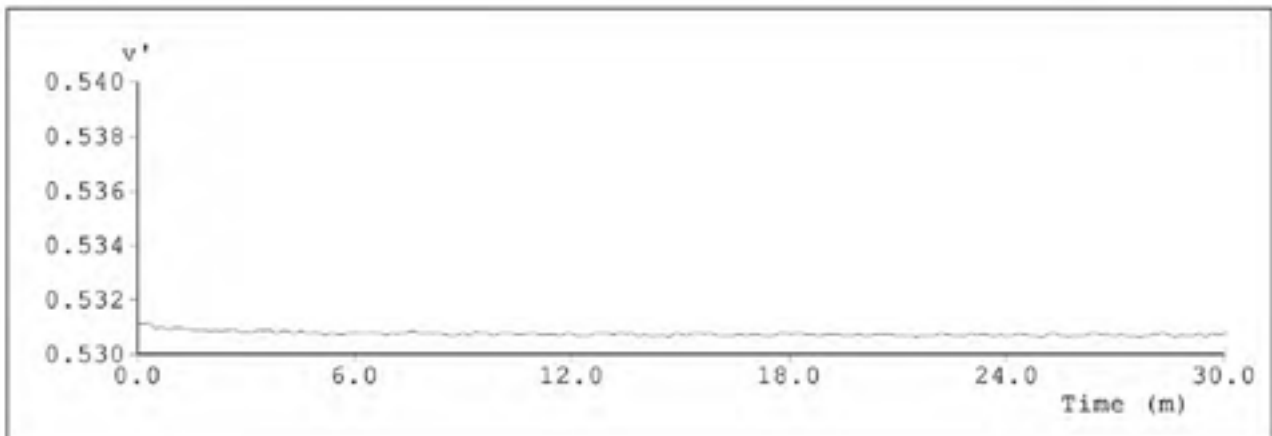
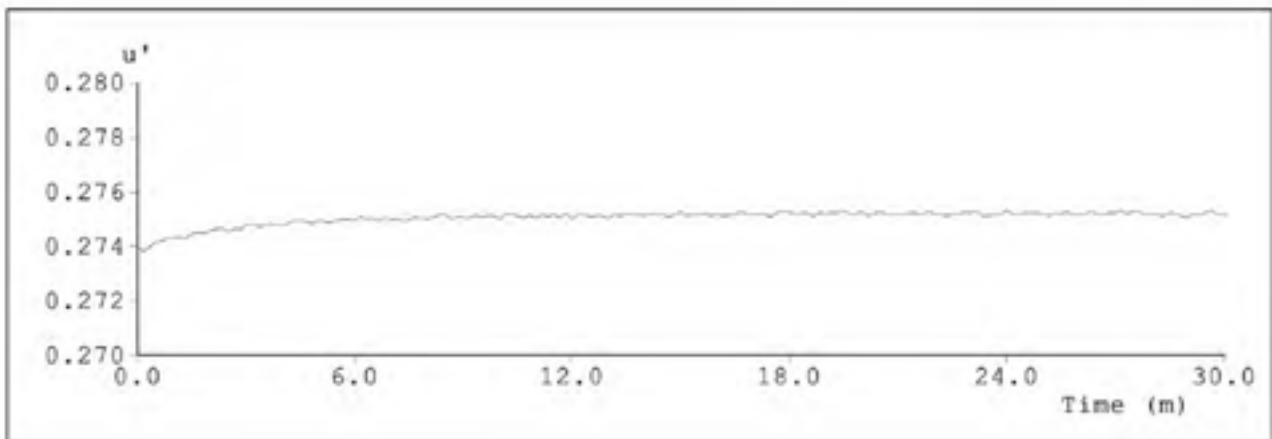
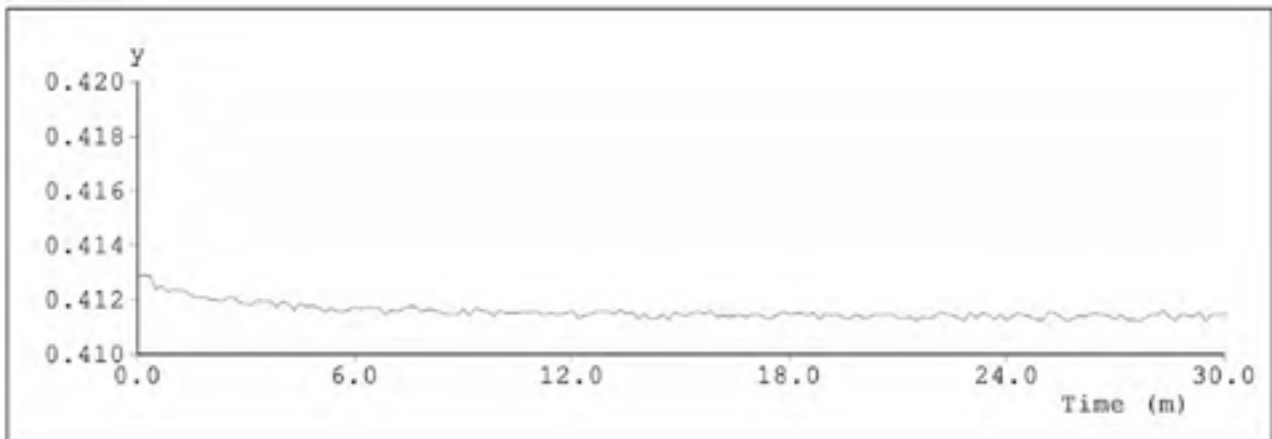
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148	00h24m40s	0.3964	23.998	9.5128	455.3	0.48	0.4114	0.2752	0.5307	2447	93.5
149	00h24m50s	0.3964	23.998	9.5128	455.44	0.4799	0.4113	0.2752	0.5306	2447	93.5
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151	00h25m10s	0.3964	23.998	9.5128	455.72	0.48	0.4115	0.2751	0.5308	2449	93.5
152	00h25m20s	0.3964	23.998	9.5128	455.41	0.4801	0.4115	0.2752	0.5308	2447	93.5
153	00h25m30s	0.3963	23.998	9.5104	455.24	0.48	0.4114	0.2752	0.5307	2447	93.5
154	00h25m40s	0.3964	23.998	9.5128	455.55	0.48	0.4112	0.2753	0.5306	2446	93.5
155	00h25m50s	0.3964	23.998	9.5128	455.56	0.4799	0.4113	0.2752	0.5306	2448	93.5
156	00h26m00s	0.3963	23.998	9.5104	455.78	0.48	0.4114	0.2752	0.5307	2448	93.5
157	00h26m10s	0.3963	23.998	9.5104	455.78	0.48	0.4114	0.2752	0.5307	2448	93.4
158	00h26m20s	0.3963	23.998	9.5104	455.81	0.4802	0.4115	0.2753	0.5308	2446	93.4
159	00h26m30s	0.3963	23.998	9.5104	455.84	0.4801	0.4115	0.2752	0.5308	2447	93.4
160	00h26m40s	0.3963	23.998	9.5104	455.24	0.48	0.4114	0.2752	0.5307	2448	93.5
161	00h26m50s	0.3963	23.998	9.5104	455.49	0.4801	0.4114	0.2752	0.5307	2446	93.5
162	00h27m00s	0.3963	23.998	9.5104	455.42	0.4799	0.4113	0.2752	0.5306	2447	93.5
163	00h27m10s	0.3963	23.998	9.5104	455.36	0.4802	0.4114	0.2753	0.5308	2445	93.4
164	00h27m20s	0.3963	23.998	9.5104	455.02	0.4799	0.4113	0.2752	0.5306	2448	93.5
165	00h27m30s	0.3963	23.998	9.5104	455.52	0.48	0.4113	0.2753	0.5307	2446	93.4
166	00h27m40s	0.3963	23.998	9.5104	455.66	0.48	0.4112	0.2753	0.5306	2446	93.4
167	00h27m50s	0.3963	23.998	9.5104	455.46	0.4799	0.4113	0.2752	0.5307	2448	93.4
168	00h28m00s	0.3963	23.998	9.5104	455.45	0.48	0.4114	0.2752	0.5307	2448	93.5
169	00h28m10s	0.3963	23.998	9.5104	455.53	0.48	0.4114	0.2752	0.5307	2448	93.5
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171	00h28m30s	0.3963	23.998	9.5104	455.56	0.48	0.4114	0.2752	0.5307	2447	93.4
172	00h28m40s	0.3963	23.998	9.5104	455.38	0.4799	0.4112	0.2752	0.5306	2448	93.4
173	00h28m50s	0.3963	23.998	9.5104	455.8	0.4799	0.4115	0.2751	0.5307	2449	93.5
174	00h29m00s	0.3963	23.998	9.5104	455.5	0.4798	0.4114	0.2751	0.5307	2450	93.5
175	00h29m10s	0.3963	23.998	9.5104	455.51	0.48	0.4114	0.2752	0.5307	2447	93.4
176	00h29m20s	0.3963	23.998	9.5104	455.43	0.48	0.4115	0.2751	0.5308	2448	93.5

177	00h29m30s	0.3963	23.998	9.5104	455.42	0.4799	0.4112	0.2752	0.5306	2447	93.4
178	00h29m40s	0.3963	23.998	9.5104	455.65	0.4803	0.4115	0.2753	0.5308	2445	93.4
179	00h29m50s	0.3963	23.998	9.5104	455.57	0.4799	0.4114	0.2751	0.5307	2448	93.5
180	00h30m00s	0.3963	23.998	9.5104	455.8	0.48	0.4115	0.2752	0.5307	2448	93.4

Test curves





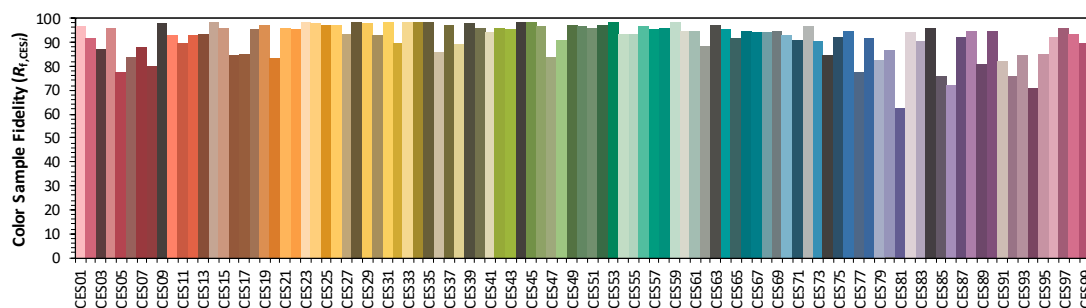
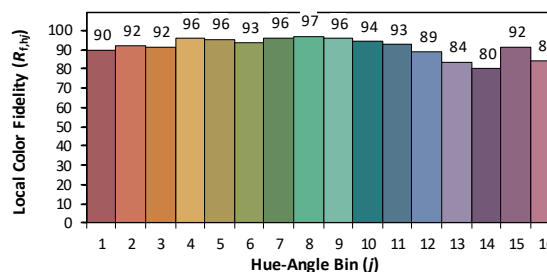
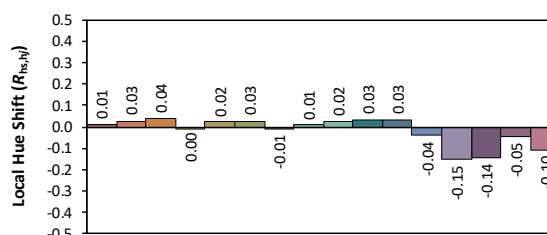
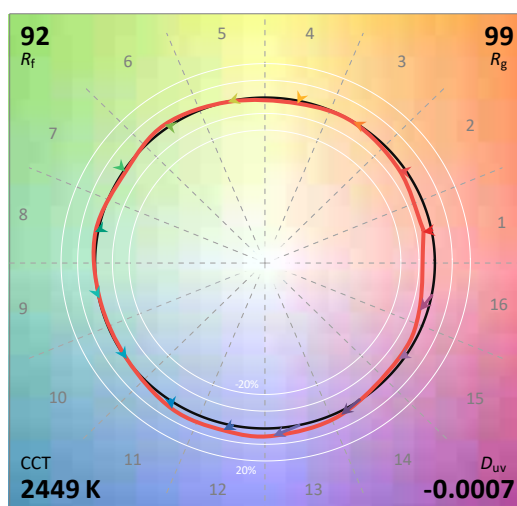
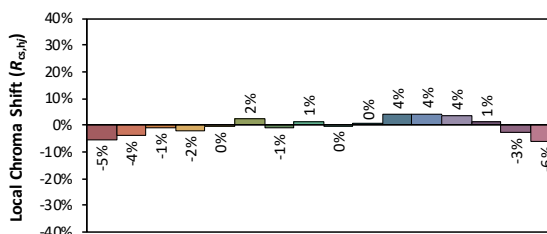
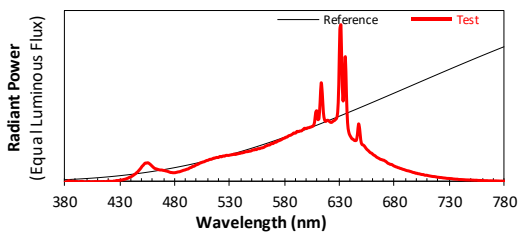


*5.2 ANSI/IES TM-30-18 Color Rendition Report

ANSI/IES TM-30-18 Color Rendition Report

2023/7/3

Model: LFUMAY-T1000WL-L27-DF-O-10 24V 10W/m



Notes: This is a recommended method for displaying ANSI/IES TM-30-18 information.

 x 0.4803 y 0.4122

u'	0.2750
------	--------

$$V' \quad 0.5310$$

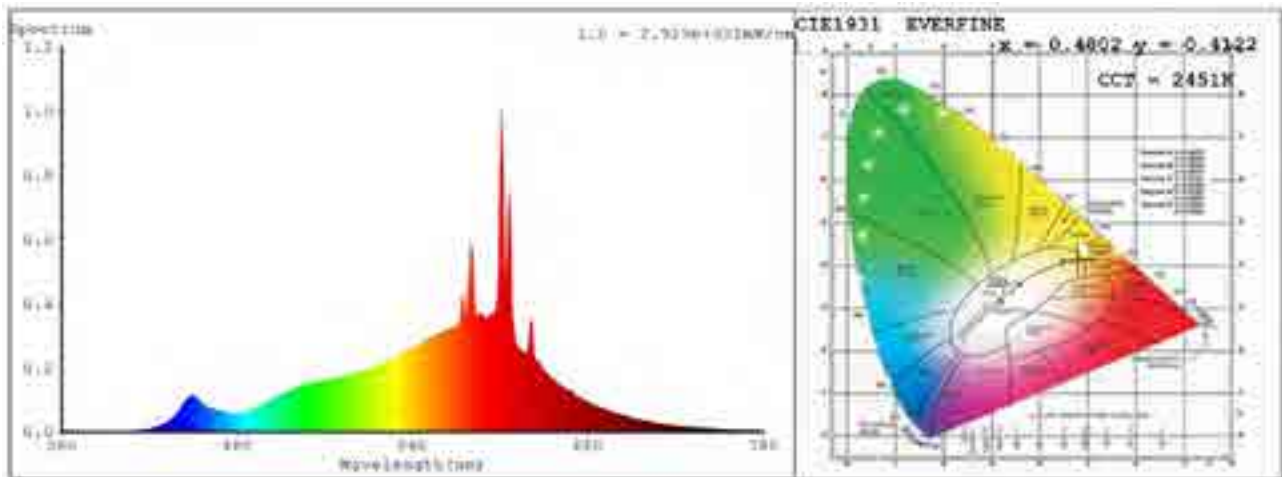
CIE 13.3-1995
(CRI)

R_a 93

 R_9 55

Colors are for visual orientation purposes only. Created with the ANSI/IES TM-30-18 Calculator Version 2.00.

5.3 Relative Spectral Power Distribution



nm	mW	nm	mW	nm	mW	nm	mW	nm	mW
380	0	414	0.0017	448	0.0754	482	0.0584	516	0.1427
381	0.0005	415	0.0029	449	0.0835	483	0.0602	517	0.1442
382	0.0029	416	0.0019	450	0.0931	484	0.0607	518	0.1466
383	0.0079	417	0.0016	451	0.0993	485	0.0632	519	0.1455
384	0.0061	418	0.0032	452	0.1073	486	0.0653	520	0.1482
385	0.002	419	0.0042	453	0.1128	487	0.068	521	0.1526
386	0.0026	420	0.0048	454	0.1121	488	0.0701	522	0.1496
387	0.0051	421	0.0034	455	0.1145	489	0.0715	523	0.1526
388	0.0015	422	0.0039	456	0.1122	490	0.0741	524	0.1551
389	0.0018	423	0.0026	457	0.1072	491	0.0764	525	0.1537
390	0.0032	424	0.0054	458	0.1016	492	0.0777	526	0.1575
391	0.0025	425	0.0053	459	0.095	493	0.0824	527	0.1589
392	0	426	0.007	460	0.089	494	0.0856	528	0.1583
393	0.0017	427	0.0087	461	0.0831	495	0.0873	529	0.1586
394	0.0028	428	0.0083	462	0.0796	496	0.0927	530	0.1604
395	0.0033	429	0.0093	463	0.0778	497	0.0932	531	0.1615
396	0.003	430	0.0095	464	0.0756	498	0.0965	532	0.1627
397	0.0014	431	0.0119	465	0.0735	499	0.1011	533	0.164
398	0.0002	432	0.0122	466	0.0719	500	0.1032	534	0.1671
399	0.0013	433	0.0144	467	0.0712	501	0.106	535	0.1635
400	0.0012	434	0.0157	468	0.0712	502	0.1096	536	0.1679
401	0.0022	435	0.0174	469	0.0693	503	0.1136	537	0.1672
402	0.0029	436	0.0201	470	0.0684	504	0.1151	538	0.1703
403	0.0007	437	0.0223	471	0.0669	505	0.1185	539	0.1701
404	0.001	438	0.0257	472	0.065	506	0.1197	540	0.1729
405	0.0017	439	0.0289	473	0.0639	507	0.1222	541	0.1732
406	0.0011	440	0.0312	474	0.0612	508	0.1256	542	0.1751
407	0.0026	441	0.0351	475	0.0591	509	0.1284	543	0.1766
408	0.0013	442	0.0394	476	0.0565	510	0.1291	544	0.1797
409	0.0025	443	0.0444	477	0.0565	511	0.133	545	0.1804
410	0.0004	444	0.0488	478	0.055	512	0.1354	546	0.1809
411	0.0019	445	0.0551	479	0.0553	513	0.1352	547	0.1823
412	0.0015	446	0.0603	480	0.0553	514	0.1382	548	0.1837
413	0.0022	447	0.0679	481	0.0569	515	0.1415	549	0.1847

nm	mW	nm	mW	nm	mW	nm	mW	nm	mW
550	0.188	599	0.3176	648	0.3162	697	0.0562	746	0.0121
551	0.1916	600	0.3209	649	0.251	698	0.0555	747	0.012
552	0.1909	601	0.3231	650	0.225	699	0.0519	748	0.0116
553	0.1942	602	0.324	651	0.2209	700	0.0523	749	0.0121
554	0.1923	603	0.327	652	0.2165	701	0.0493	750	0.011
555	0.1976	604	0.3283	653	0.2079	702	0.0489	751	0.0111
556	0.1988	605	0.3323	654	0.1987	703	0.0471	752	0.0106
557	0.1985	606	0.3354	655	0.1917	704	0.0453	753	0.0101
558	0.202	607	0.3582	656	0.1863	705	0.0441	754	0.0105
559	0.2031	608	0.4139	657	0.1793	706	0.044	755	0.0098
560	0.2047	609	0.4239	658	0.1739	707	0.041	756	0.0091
561	0.2073	610	0.3717	659	0.1712	708	0.0398	757	0.009
562	0.212	611	0.3787	660	0.1647	709	0.0401	758	0.009
563	0.2151	612	0.4751	661	0.1598	710	0.0384	759	0.0087
564	0.2174	613	0.5906	662	0.1564	711	0.0369	760	0.0086
565	0.2204	614	0.5281	663	0.1504	712	0.0356	761	0.0081
566	0.2206	615	0.4155	664	0.1458	713	0.0343	762	0.0077
567	0.2249	616	0.3718	665	0.1426	714	0.0332	763	0.0077
568	0.2299	617	0.3609	666	0.1389	715	0.0323	764	0.0078
569	0.2282	618	0.3656	667	0.1349	716	0.0322	765	0.007
570	0.2333	619	0.3682	668	0.1336	717	0.0309	766	0.0067
571	0.2376	620	0.364	669	0.1305	718	0.0297	767	0.0072
572	0.2367	621	0.3579	670	0.1297	719	0.028	768	0.0069
573	0.2423	622	0.3551	671	0.1253	720	0.0279	769	0.0068
574	0.2445	623	0.3573	672	0.1218	721	0.0265	770	0.0062
575	0.2472	624	0.3641	673	0.1157	722	0.0264	771	0.0063
576	0.2498	625	0.366	674	0.1107	723	0.0255	772	0.0066
577	0.2532	626	0.3728	675	0.1082	724	0.0243	773	0.006
578	0.2575	627	0.3795	676	0.1047	725	0.0237	774	0.006
579	0.2603	628	0.4142	677	0.1046	726	0.023	775	0.0057
580	0.2625	629	0.58	678	0.1008	727	0.0217	776	0.0053
581	0.2672	630	0.9097	679	0.0962	728	0.0211	777	0.0055
582	0.2679	631	0.9351	680	0.0933	729	0.021	778	0.0052
583	0.2734	632	0.6141	681	0.0903	730	0.0206	779	0.0044
584	0.2771	633	0.4825	682	0.0884	731	0.0201	780	0.0044
585	0.2782	634	0.6205	683	0.0853	732	0.0196		
586	0.282	635	0.7474	684	0.0838	733	0.018		
587	0.286	636	0.5202	685	0.0806	734	0.0175		
588	0.2921	637	0.3534	686	0.0793	735	0.0168		
589	0.2913	638	0.3011	687	0.076	736	0.0165		
590	0.2926	639	0.2801	688	0.0746	737	0.0165		
591	0.302	640	0.2686	689	0.0723	738	0.0149		
592	0.2996	641	0.2576	690	0.0698	739	0.0146		
593	0.3025	642	0.2552	691	0.0676	740	0.0143		
594	0.3041	643	0.2487	692	0.0665	741	0.0143		
595	0.3045	644	0.2467	693	0.065	742	0.0137		
596	0.3098	645	0.2487	694	0.0629	743	0.0134		
597	0.3154	646	0.2849	695	0.061	744	0.0127		
598	0.3209	647	0.3455	696	0.0583	745	0.0124		

6. Goniophotometer Test results

6.1 Test Data

Test Ambient Temperature	25.2°C	Test orientation	Downward
Operate time(Min.)	90	stabilization time(Min.)	30

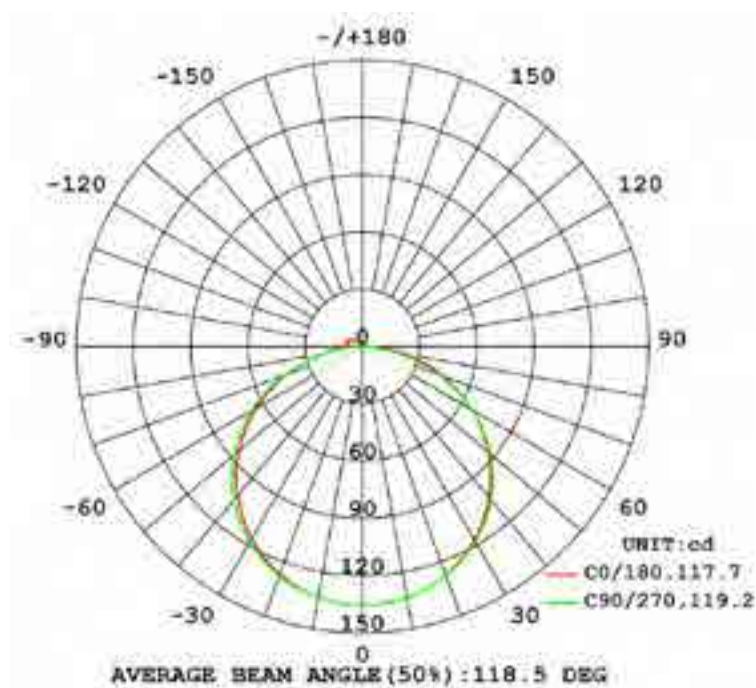
Electrical Measurement

Input Voltage (V)	Frequency (Hz)	Input Current(A)	Power Factor	Power(W)
24	--	0.395	1.0000	9.48

Optical Measurement

Luminous Flux (lm)	Efficacy(lm/W)	I _{max} (cd)	η up (%)	η down (%)
429.784	45.34	135.4	2.5	97.5

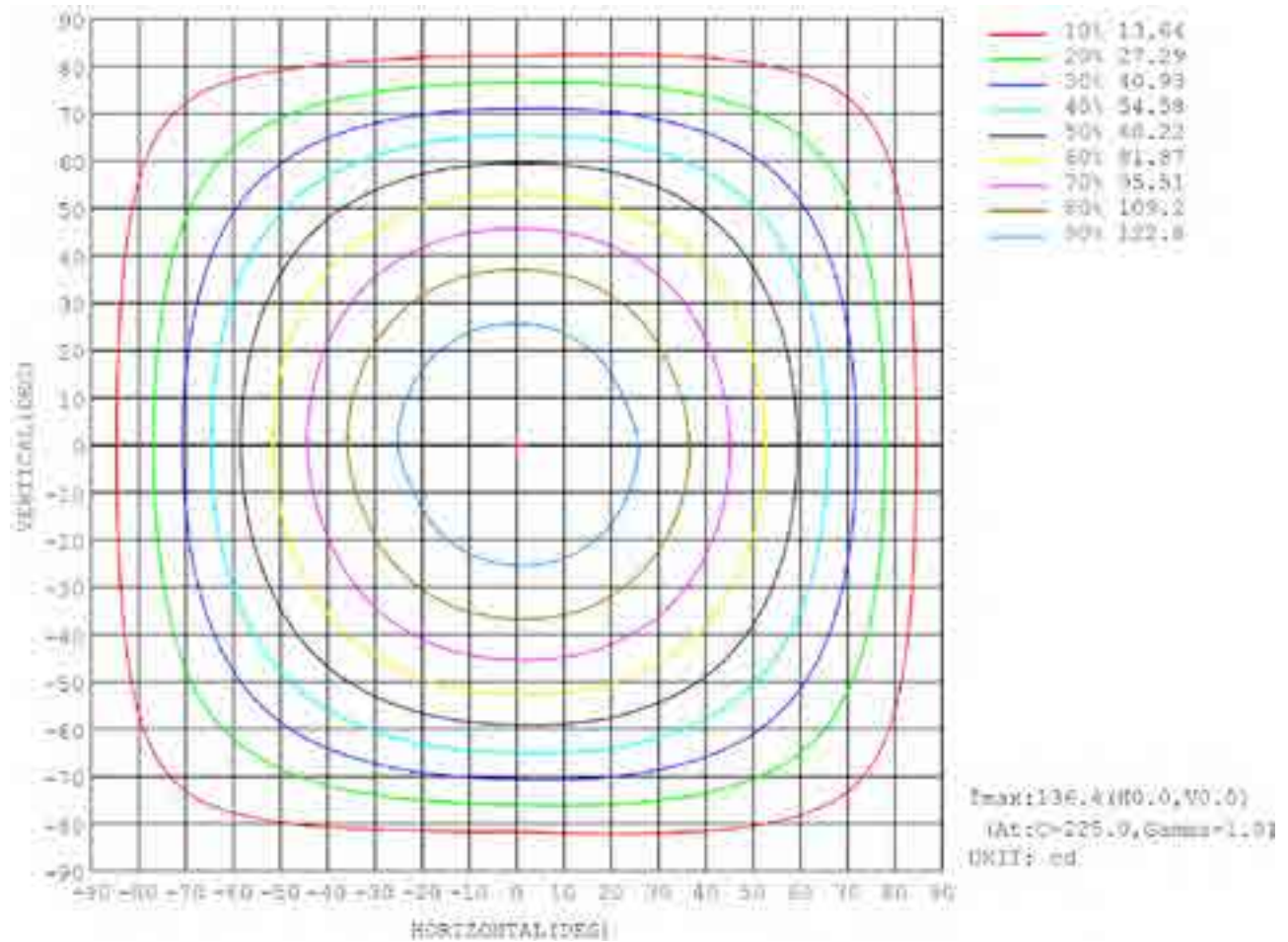
6.2 Luminous Intensity Distribution



6.3 Zonal Flux Diagram

Y	YB	YCB	YCF	YCP	YFF	YGB	YGF	YGB	Y	YB	YCB	YCF	YCP	YFF	YGB	YGF	YGB	Y
10	115.2	115.2	115.2	115.2	115.2	115.2	115.2	115.2	10-11	115.2	115.2	115.2	115.2	115.2	115.2	115.2	115.2	10-11
20	127.4	127.4	127.4	127.4	127.4	127.4	127.4	127.4	20-21	127.4	127.4	127.4	127.4	127.4	127.4	127.4	127.4	20-21
30	137.1	137.1	137.1	137.1	137.1	137.1	137.1	137.1	30-31	137.1	137.1	137.1	137.1	137.1	137.1	137.1	137.1	30-31
40	145.1	145.1	145.1	145.1	145.1	145.1	145.1	145.1	40-41	145.1	145.1	145.1	145.1	145.1	145.1	145.1	145.1	40-41
50	161.21	161.21	161.21	161.21	161.21	161.21	161.21	161.21	50-51	161.21	161.21	161.21	161.21	161.21	161.21	161.21	161.21	50-51
60	161.88	161.88	161.88	161.88	161.88	161.88	161.88	161.88	60-61	161.88	161.88	161.88	161.88	161.88	161.88	161.88	161.88	60-61
70	161.88	161.88	161.88	161.88	161.88	161.88	161.88	161.88	70-71	161.88	161.88	161.88	161.88	161.88	161.88	161.88	161.88	70-71
80	171.88	171.88	171.88	171.88	171.88	171.88	171.88	171.88	80-81	171.88	171.88	171.88	171.88	171.88	171.88	171.88	171.88	80-81
90	171.88	171.88	171.88	171.88	171.88	171.88	171.88	171.88	90-91	171.88	171.88	171.88	171.88	171.88	171.88	171.88	171.88	90-91
100	171.88	171.88	171.88	171.88	171.88	171.88	171.88	171.88	100-101	171.88	171.88	171.88	171.88	171.88	171.88	171.88	171.88	100-101
110	171.88	171.88	171.88	171.88	171.88	171.88	171.88	171.88	110-111	171.88	171.88	171.88	171.88	171.88	171.88	171.88	171.88	110-111
120	171.88	171.88	171.88	171.88	171.88	171.88	171.88	171.88	120-121	171.88	171.88	171.88	171.88	171.88	171.88	171.88	171.88	120-121
130	171.88	171.88	171.88	171.88	171.88	171.88	171.88	171.88	130-131	171.88	171.88	171.88	171.88	171.88	171.88	171.88	171.88	130-131
140	171.88	171.88	171.88	171.88	171.88	171.88	171.88	171.88	140-141	171.88	171.88	171.88	171.88	171.88	171.88	171.88	171.88	140-141
150	171.88	171.88	171.88	171.88	171.88	171.88	171.88	171.88	150-151	171.88	171.88	171.88	171.88	171.88	171.88	171.88	171.88	150-151
160	171.88	171.88	171.88	171.88	171.88	171.88	171.88	171.88	160-161	171.88	171.88	171.88	171.88	171.88	171.88	171.88	171.88	160-161
170	171.88	171.88	171.88	171.88	171.88	171.88	171.88	171.88	170-171	171.88	171.88	171.88	171.88	171.88	171.88	171.88	171.88	170-171
180	171.88	171.88	171.88	171.88	171.88	171.88	171.88	171.88	180-181	171.88	171.88	171.88	171.88	171.88	171.88	171.88	171.88	180-181
190	171.88	171.88	171.88	171.88	171.88	171.88	171.88	171.88	190-191	171.88	171.88	171.88	171.88	171.88	171.88	171.88	171.88	190-191
200	171.88	171.88	171.88	171.88	171.88	171.88	171.88	171.88	200-201	171.88	171.88	171.88	171.88	171.88	171.88	171.88	171.88	200-201
210	171.88	171.88	171.88	171.88	171.88	171.88	171.88	171.88	210-211	171.88	171.88	171.88	171.88	171.88	171.88	171.88	171.88	210-211
220	171.88	171.88	171.88	171.88	171.88	171.88	171.88	171.88	220-221	171.88	171.88	171.88	171.88	171.88	171.88	171.88	171.88	220-221
230	171.88	171.88	171.88	171.88	171.88	171.88	171.88	171.88	230-231	171.88	171.88	171.88	171.88	171.88	171.88	171.88	171.88	230-231
240	171.88	171.88	171.88	171.88	171.88	171.88	171.88	171.88	240-241	171.88	171.88	171.88	171.88	171.88	171.88	171.88	171.88	240-241
250	171.88	171.88	171.88	171.88	171.88	171.88	171.88	171.88	250-251	171.88	171.88	171.88	171.88	171.88	171.88	171.88	171.88	250-251
260	171.88	171.88	171.88	171.88	171.88	171.88	171.88	171.88	260-261	171.88	171.88	171.88	171.88	171.88	171.88	171.88	171.88	260-261
270	171.88	171.88	171.88	171.88	171.88	171.88	171.88	171.88	270-271	171.88	171.88	171.88	171.88	171.88	171.88	171.88	171.88	270-271
280	171.88	171.88	171.88	171.88	171.88	171.88	171.88	171.88	280-281	171.88	171.88	171.88	171.88	171.88	171.88	171.88	171.88	280-281
290	171.88	171.88	171.88	171.88	171.88	171.88	171.88	171.88	290-291	171.88	171.88	171.88	171.88	171.88	171.88	171.88	171.88	290-291
300	171.88	171.88	171.88	171.88	171.88	171.88	171.88	171.88	300-301	171.88	171.88	171.88	171.88	171.88	171.88	171.88	171.88	300-301

6.4 Isocandela Diagram



6.5 Luminous Distribution Intensity Data

Table--1

UNIT: cd

C (DEG)	0	22.5	45	67.5	90	112.5	135	157.5	180	202.5	225	247.5	270	292.5	315	337.5			
I (DEG)	0	135	135	135	135	135	135	135	135	135	135	135	135	135	135	135			
5	135	135	135	135	135	135	135	135	135	135	135	135	135	135	135	135			
10	134	134	134	133	133	133	133	133	133	133	133	133	134	134	134	134			
15	131	131	131	131	131	131	131	131	131	131	131	131	131	131	131	131			
20	127	128	128	128	128	128	127	127	127	127	128	128	128	128	128	128			
25	123	123	123	124	123	123	123	122	122	122	123	123	123	124	123	123			
30	117	117	118	118	118	118	117	116	116	117	117	118	118	118	118	117			
35	111	111	112	112	112	111	111	110	110	110	111	112	112	112	112	111			
40	103	104	104	105	105	104	103	102	102	103	104	105	105	105	104	104			
45	95.0	95.5	96.4	96.9	96.4	96.1	94.9	93.8	93.5	94.2	95.5	96.3	96.7	97.1	96.5	95.0			
50	86.1	86.6	87.7	88.0	87.3	87.0	85.8	84.7	84.4	85.1	86.4	87.3	87.7	88.1	87.6	86.7			
55	74.5	75.1	77.8	78.2	77.4	77.0	75.9	74.8	74.4	75.3	76.6	77.5	77.8	78.5	78.1	77.2			
60	66.5	66.9	67.7	67.7	66.5	66.2	65.3	64.3	64.2	64.9	66.0	66.9	67.1	68.0	67.7	67.0			
65	55.9	56.2	56.7	56.4	54.8	54.6	54.0	53.3	53.3	53.8	54.8	55.4	55.5	56.8	56.8	56.3			
70	44.9	45.1	45.2	44.4	42.5	42.4	42.3	42.0	42.2	42.6	43.1	43.3	43.3	44.9	45.3	45.2			
75	33.7	33.7	33.3	32.0	29.7	29.9	30.4	30.7	31.1	31.1	31.2	30.8	30.7	32.7	33.6	33.0			
80	22.6	22.4	21.7	19.8	17.3	18.1	19.5	20.4	19.9	19.3	18.6	18.8	18.3	20.5	21.9	22.7			
85	12.7	12.4	11.3	9.20	7.02	8.60	11.1	12.9	13.2	12.4	10.6	7.15	7.79	9.77	11.4	12.5			
90	5.36	4.94	3.89	2.66	1.27	1.43	1.07	0.69	0.84	1.09	1.36	2.87	1.91	3.17	4.21	5.17			
95	0.07	0.08	0.16	0.34	0.07	1.42	4.26	0.35	0.10	0.16	3.20	1.46	0.08	0.40	0.11	0.08			
100	0.06	1.16	1.09	0.79	0.26	3.23	6.42	8.67	8.97	8.37	6.18	3.21	0.42	1.06	1.14	1.00			
105	0.66	0.87	1.00	1.02	1.06	2.97	6.58	8.52	8.93	8.33	6.37	2.80	1.17	1.13	0.99	0.65			
110	0.58	0.79	0.91	0.93	0.99	2.27	6.24	8.31	8.78	8.11	5.95	1.84	1.03	0.94	0.80	0.58			
115	0.53	0.72	0.81	0.86	0.90	1.64	5.47	7.68	8.28	7.44	5.02	1.15	0.86	0.77	0.57	0.52			
120	0.47	0.65	0.71	0.78	0.82	1.40	4.42	6.71	7.33	6.45	3.83	0.85	0.66	0.56	0.36	0.44			
125	0.41	0.56	0.63	0.68	0.76	1.15	3.00	5.56	6.25	5.28	2.32	0.58	0.45	0.34	0.25	0.36			
130	0.32	0.47	0.59	0.62	0.67	0.93	1.93	4.06	4.84	3.76	1.29	0.38	0.27	0.20	0.25	0.29			
135	0.28	0.42	0.52	0.55	0.60	0.85	1.48	2.38	3.05	2.05	0.96	0.14	0.17	0.13	0.22	0.28			
140	0.28	0.36	0.43	0.46	0.53	0.81	1.12	1.65	1.78	1.42	0.74	0.19	0.14	0.15	0.19	0.27			
145	0.23	0.29	0.39	0.43	0.44	0.64	1.19	1.28	1.06	0.59	0.16	0.15	0.15	0.15	0.19	0.23			
150	0.18	0.19	0.14	0.37	0.13	0.37	0.18	0.83	0.89	0.78	0.24	0.19	0.17	0.17	0.17	0.21			
155	0.17	0.15	0.30	0.33	0.15	0.33	0.42	0.16	0.42	0.38	0.19	0.20	0.18	0.18	0.19	0.19			
160	0.15	0.15	0.26	0.29	0.15	0.29	0.28	0.30	0.20	0.20	0.30	0.20	0.18	0.19	0.19	0.20			
165	0.15	0.14	0.16	0.25	0.15	0.28	0.21	0.16	0.21	0.21	0.20	0.20	0.19	0.19	0.19	0.19			
170	0.15	0.15	0.15	0.15	0.15	0.17	0.17	0.16	0.20	0.20	0.19	0.19	0.19	0.19	0.19	0.19			
175	0.16	0.17	0.17	0.18	0.18	0.18	0.18	0.18	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.20			
180	0.19	0.18	0.18	0.18	0.19	0.19	0.19	0.18	0.19	0.18	0.18	0.18	0.18	0.19	0.19	0.19			

7. Photo of sample

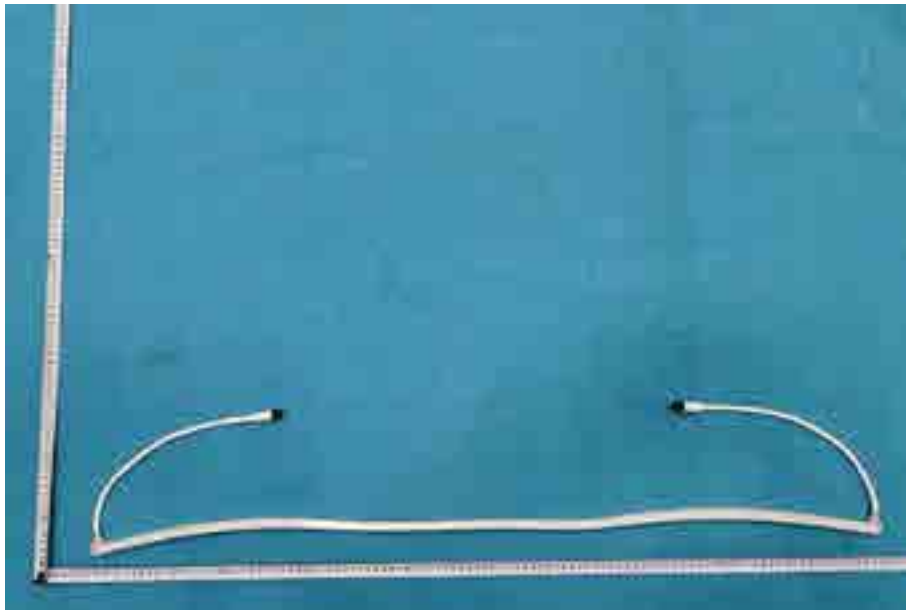


Figure 1 Overview

---End of Report---



Test Report Of ANSI/IES LM-79-19

APPROVED METHOD FOR OPTICAL AND ELECTRICAL MEASUREMENTS OF SOLID-STATE LIGHTING PRODUCTS

Report Number..... : N02A23060187L00601

Client..... : Luci Pte. Ltd.

Address..... : 52A Tanjong Pagar Road, Singapore 088473

Test Model..... : LFUMAY-T1000WL-L27-DF-O-15 24V 15W/m

Brand Name..... : N/A

Testing Laboratory... : Guangdong Meide Testing Technology Co., Ltd.

Address..... : 1st floor, B Area, Jinbaisheng Industrial Park, Headquarters 2 Road, Songshan
Lake Hi-tech Industrial Development Zone, Dongguan City, Guangdong Pr., China.

Testing Location..... : As above

Date of receipt..... : June. 17, 2023

Date of test : June. 26, 2023 – July. 04, 2023

Date of report..... : July. 04, 2023

Tested by:

Jarvis Zhang

Jarvis Zhang/ Test Engineer

Checked by:

Sandy Chen

Sandy Chen/ Project Engineer



Note 1: The test data was only valid for the test sample(s). This test report is prepared for the customer shown above and for the device described herein. It may not be duplicated or used in part without prior written consent from Guangdong Meide Testing Technology Co., Ltd. This report must not be used by the customer to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the Federal Government.

Note 2: This report does not imply product certification, approval, or endorsement by NVLAP, NIST, or any agency of the Federal Government.

Note 3: This report contains data that are not covered by the NVLAP accreditation. It is marked * in the title.

1. Product Description for Equipment under Test (EUT)

Representative (Tested) Model: LFUMAY-T1000WL-L27-DF-O-15 24V 15W/m

Manufacturer:

Product Type: UQ mini

Rated Voltage/Frequency: DC24V

Rated Power: 15W

Rated luminous flux: /

Nominal CCT: 2700K

2. Standards Used

- ANSI/IES LM-79-19:APPROVED METHOD:OPTICAL AND ELECTRICAL MEASUREMENTS OF SOLID-STATE LIGHTING PRODUCTS
- IES TM-30-18 IES Method for Evaluating Light Source Color Rendition (This Method is not in Nvlap accreditation scope)

3. Test equipment list

Test Equipment	Serial No.	Model No.	Calibration due date
Full-field Speed Goniophotometer	MD-E028	GO-R5000	2023/09/17
Digital Power Meter	MD-E001	PF2010	2023/09/17
AC Testing Power Source	MD-E002	DPS1060	2023/09/17
Total Spectral Radiant Flux Standard Lamp	MD-E007	D908S	2023/10/13
Integrating Sphere System	MD-E029	2M	2023/09/17
High Accuracy Array Spectroradio Meter	MD-E011	HAAS-3000	2023/09/17
Digital Power Meter	MD-E008	PF310	2023/09/17
AC Testing Power Source	MD-E010	DPS1010	2023/09/17
Standard Lamp	MD-E036	D204	2023/10/13

Statement of Traceability: Guangdong Meide Testing Technology Co., Ltd. attested that all calibration has been performed using suitable standards traceable to national primary standards and International System of Unit(SI).

4. Test Method

Requirements of Ambient Condition

Product was tested with no seasoning. All stabilization and measurements were made in compliance with ANSI/IES LM-79-19. The product was operated at rated voltage or at voltage required by manufacturer. The ambient temperature of the sample was maintained at $25^{\circ}\text{C} \pm 1.2^{\circ}\text{C}$ during measurement. And relative humidity between 10% and 65%.

Goniophotometer System

The sample was tested according to the ANSI/IES LM-79-19.

Photometric parameters were measured using a type C goniophotometer and software. The samples were operated at rated voltage and was stabilized before measurement. Luminous flux, Luminous efficacy, zonal flux were calculated from the software taken at 1° vertical intervals and 22.5° horizontal intervals. Photometric distance was more than five times of the Largest dimension of the test SSL product.

Integrating Sphere System

The sample was tested according to the ANSI/IES LM-79-19.

The sample measurements were made using a spectroradiometer connected by a fiber optic cable and detector through the detector port of the integrating sphere. Coating reflectance of the integrating sphere was 90% to 98%. Photometric measurement conditions was using 4π geometry. The self-absorption factor is applied in the final test result. The sample was operated at rated voltage and was stabilized before measurement. Chromaticity coordinates, correlated color temperature and color rendering index were calculated from the spectral radiant flux measurements taken at 1 nm intervals over the range of 380 to 780 nm.

Fidelity Index (R_f) and Gamut Index (R_g) Calculation

The R_f , R_g was calculated according to IES TM-30-18 by using calculation tools. The calculation was based on the measured SPD from 380nm to 780nm with 1nm intervals. All the colors in this report is for reference only.

5. Integrating Sphere Test Results

5.1 Test Data

Test Ambient Temperature (Integrating sphere internal temperature)	25.1℃	Test orientation	Downward
Operate time(Min.)	30	stabilization time(Min.)	0

Optical and Electrical Measurement Result

Number	Time	Current (A)	Voltage (V)	Power (W)	Flux(lm)	x	y	u'	v'	CCT (K)	Ra
0	00h00m00s	0.6642	23.998	15.939	777.74	0.4774	0.4126	0.273	0.5308	2487	93.5
1	00h00m10s	0.6561	23.998	15.745	777.51	0.4774	0.4127	0.2729	0.5308	2488	93.5
2	00h00m20s	0.6527	23.998	15.663	769.43	0.4776	0.4122	0.2732	0.5306	2482	93.4
3	00h00m30s	0.6499	23.998	15.596	763.6	0.4777	0.4121	0.2734	0.5306	2480	93.4
4	00h00m40s	0.6478	23.998	15.546	758.64	0.4779	0.412	0.2735	0.5306	2477	93.5
5	00h00m50s	0.646	23.998	15.503	754.55	0.4779	0.4119	0.2736	0.5306	2475	93.4
6	00h01m00s	0.6445	23.998	15.467	751.54	0.478	0.4118	0.2737	0.5305	2475	93.5
7	00h01m10s	0.6432	23.998	15.436	748.36	0.4781	0.4118	0.2738	0.5306	2473	93.4
8	00h01m20s	0.642	23.998	15.407	745.6	0.478	0.4116	0.2738	0.5305	2473	93.5
9	00h01m30s	0.6411	23.998	15.385	743.58	0.4781	0.4116	0.2738	0.5305	2472	93.4
10	00h01m40s	0.6401	23.998	15.361	741.06	0.4782	0.4116	0.2739	0.5305	2470	93.4
11	00h01m50s	0.6393	23.998	15.342	738.51	0.4782	0.4114	0.274	0.5304	2469	93.5
12	00h02m00s	0.6385	23.998	15.323	736.88	0.4782	0.4114	0.274	0.5304	2469	93.4
13	00h02m10s	0.6378	23.998	15.306	735.45	0.4782	0.4114	0.274	0.5304	2469	93.4
14	00h02m20s	0.6372	23.998	15.292	734.08	0.4783	0.4115	0.2741	0.5305	2468	93.4
15	00h02m30s	0.6366	23.998	15.277	731.83	0.4782	0.4112	0.2741	0.5304	2468	93.4
16	00h02m40s	0.636	23.998	15.263	730.75	0.4783	0.4113	0.2741	0.5304	2467	93.4
17	00h02m50s	0.6355	23.998	15.251	729.08	0.4785	0.4113	0.2743	0.5305	2464	93.4
18	00h03m00s	0.635	23.998	15.239	728.09	0.4783	0.4112	0.2742	0.5304	2466	93.4
19	00h03m10s	0.6345	23.998	15.227	726.51	0.4783	0.4109	0.2743	0.5303	2465	93.4
20	00h03m20s	0.634	23.998	15.215	725.11	0.4784	0.4111	0.2743	0.5303	2463	93.4
21	00h03m30s	0.6336	23.998	15.205	723.41	0.4785	0.4111	0.2744	0.5304	2463	93.4

22	00h03m40s	0.6332	23.998	15.196	722.7	0.4785	0.411	0.2744	0.5303	2462	93.4
23	00h03m50s	0.6328	23.998	15.186	722.43	0.4785	0.411	0.2744	0.5303	2463	93.4
24	00h04m00s	0.6324	23.998	15.176	720.79	0.4786	0.4112	0.2743	0.5304	2463	93.4
25	00h04m10s	0.6321	23.998	15.169	720.34	0.4785	0.4111	0.2744	0.5304	2462	93.4
26	00h04m20s	0.6318	23.998	15.162	719.11	0.4786	0.4111	0.2744	0.5304	2462	93.4
27	00h04m30s	0.6314	23.998	15.152	718.08	0.4787	0.411	0.2745	0.5304	2460	93.4
28	00h04m40s	0.6311	23.998	15.145	717.66	0.4788	0.4111	0.2745	0.5304	2460	93.4
29	00h04m50s	0.6308	23.998	15.138	716.83	0.4787	0.411	0.2745	0.5304	2460	93.4
30	00h05m00s	0.6306	23.998	15.133	716.01	0.4787	0.4108	0.2746	0.5303	2458	93.4
31	00h05m10s	0.6303	23.998	15.126	715.31	0.4787	0.4108	0.2746	0.5303	2459	93.4
32	00h05m20s	0.6301	23.998	15.121	714.26	0.4788	0.4108	0.2747	0.5303	2458	93.4
33	00h05m30s	0.6298	23.998	15.114	713.5	0.4788	0.4108	0.2747	0.5303	2457	93.3
34	00h05m40s	0.6296	23.998	15.109	713.32	0.479	0.4109	0.2748	0.5303	2456	93.3
35	00h05m50s	0.6294	23.998	15.104	712.86	0.4788	0.4109	0.2747	0.5303	2457	93.4
36	00h06m00s	0.6291	23.998	15.097	712.67	0.4787	0.4108	0.2747	0.5303	2458	93.4
37	00h06m10s	0.6289	23.998	15.092	711.76	0.4788	0.4108	0.2747	0.5303	2457	93.3
38	00h06m20s	0.6287	23.998	15.088	711.81	0.4787	0.4107	0.2747	0.5303	2457	93.4
39	00h06m30s	0.6286	23.998	15.085	710.41	0.4789	0.4108	0.2748	0.5303	2456	93.3
40	00h06m40s	0.6284	23.998	15.08	710.3	0.4788	0.4105	0.2748	0.5302	2455	93.4
41	00h06m50s	0.6282	23.998	15.076	710.18	0.4787	0.4107	0.2747	0.5302	2458	93.4
42	00h07m00s	0.628	23.998	15.071	709.36	0.4787	0.4106	0.2747	0.5302	2457	93.4
43	00h07m10s	0.6279	23.998	15.068	709.07	0.4789	0.4108	0.2747	0.5303	2456	93.4
44	00h07m20s	0.6277	23.998	15.064	708.55	0.4789	0.4106	0.2749	0.5302	2454	93.3
45	00h07m30s	0.6276	23.998	15.061	708.49	0.4789	0.4108	0.2748	0.5303	2456	93.3
46	00h07m40s	0.6274	23.998	15.056	708.39	0.4789	0.4109	0.2747	0.5303	2457	93.4
47	00h07m50s	0.6273	23.998	15.054	707.21	0.4791	0.4107	0.275	0.5303	2452	93.3
48	00h08m00s	0.6271	23.998	15.049	707.11	0.4789	0.4108	0.2748	0.5303	2456	93.4
49	00h08m10s	0.627	23.998	15.047	706.64	0.479	0.4107	0.2749	0.5303	2454	93.3
50	00h08m20s	0.6269	23.998	15.044	706.2	0.4791	0.4107	0.275	0.5303	2452	93.3
51	00h08m30s	0.6268	23.998	15.042	706.18	0.479	0.4108	0.2749	0.5303	2454	93.4
52	00h08m40s	0.6267	23.998	15.04	706.18	0.4789	0.4106	0.2749	0.5303	2454	93.3

53	00h08m50s	0.6266	23.998	15.037	706.26	0.4789	0.4108	0.2748	0.5303	2456	93.3
54	00h09m00s	0.6264	23.998	15.032	705.81	0.4791	0.4108	0.2749	0.5303	2454	93.3
55	00h09m10s	0.6263	23.998	15.03	705.53	0.479	0.4105	0.2749	0.5302	2453	93.3
56	00h09m20s	0.6263	23.998	15.03	704.69	0.4788	0.4105	0.2748	0.5302	2455	93.4
57	00h09m30s	0.6262	23.998	15.028	704.59	0.479	0.4106	0.275	0.5302	2453	93.3
58	00h09m40s	0.6261	23.998	15.025	704.81	0.4789	0.4106	0.2749	0.5302	2454	93.3
59	00h09m50s	0.626	23.998	15.023	704.73	0.479	0.4108	0.2748	0.5303	2455	93.3
60	00h10m00s	0.6259	23.998	15.02	704.2	0.4789	0.4107	0.2748	0.5303	2455	93.4
61	00h10m10s	0.6258	23.998	15.018	703.48	0.479	0.4109	0.2748	0.5304	2455	93.4
62	00h10m20s	0.6258	23.998	15.018	703.35	0.4789	0.4105	0.2749	0.5302	2454	93.4
63	00h10m30s	0.6257	23.998	15.016	703.28	0.4788	0.4105	0.2748	0.5302	2455	93.3
64	00h10m40s	0.6256	23.998	15.013	703.28	0.479	0.4108	0.2748	0.5303	2455	93.4
65	00h10m50s	0.6255	23.998	15.011	702.8	0.4789	0.4105	0.2749	0.5302	2453	93.3
66	00h11m00s	0.6255	23.998	15.011	702.93	0.479	0.4107	0.2749	0.5303	2454	93.4
67	00h11m10s	0.6254	23.998	15.008	702.4	0.4788	0.4105	0.2748	0.5302	2455	93.4
68	00h11m20s	0.6254	23.998	15.008	702.59	0.479	0.4106	0.2749	0.5302	2453	93.3
69	00h11m30s	0.6253	23.998	15.006	703	0.4789	0.4105	0.2749	0.5302	2454	93.3
70	00h11m40s	0.6252	23.998	15.004	702.52	0.4791	0.4106	0.275	0.5303	2452	93.4
71	00h11m50s	0.6252	23.998	15.004	702.43	0.4791	0.4107	0.2749	0.5303	2453	93.3
72	00h12m00s	0.6251	23.998	15.001	702.06	0.4789	0.4104	0.275	0.5302	2453	93.3
73	00h12m10s	0.6251	23.998	15.001	701.56	0.479	0.4106	0.275	0.5302	2452	93.3
74	00h12m20s	0.625	23.998	14.999	702.38	0.4788	0.4106	0.2748	0.5302	2456	93.4
75	00h12m30s	0.625	23.998	14.999	701.67	0.4791	0.4106	0.275	0.5302	2452	93.3
76	00h12m40s	0.6249	23.998	14.996	701.73	0.4791	0.4106	0.275	0.5303	2451	93.3
77	00h12m50s	0.6249	23.998	14.996	701.49	0.479	0.4104	0.275	0.5302	2452	93.3
78	00h13m00s	0.6249	23.998	14.996	701.43	0.4791	0.4106	0.275	0.5303	2452	93.3
79	00h13m10s	0.6248	23.998	14.994	701.99	0.4789	0.4105	0.2749	0.5302	2454	93.3
80	00h13m20s	0.6248	23.998	14.994	701.07	0.4789	0.4105	0.2749	0.5302	2453	93.4
81	00h13m30s	0.6247	23.998	14.992	701.47	0.479	0.4104	0.275	0.5302	2452	93.3
82	00h13m40s	0.6247	23.998	14.992	701.1	0.479	0.4105	0.275	0.5302	2452	93.3
83	00h13m50s	0.6247	23.998	14.992	701.58	0.479	0.4105	0.2749	0.5302	2453	93.4

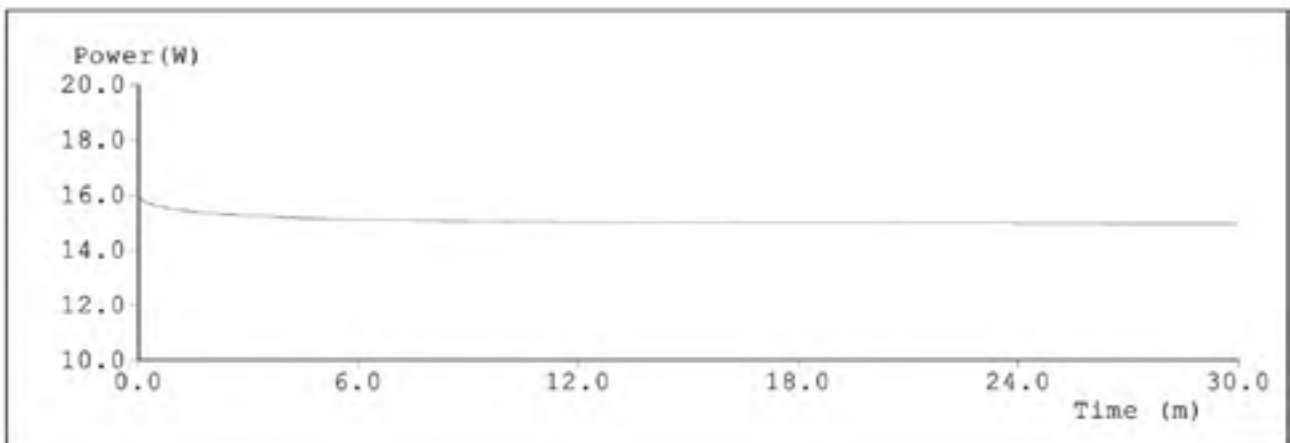
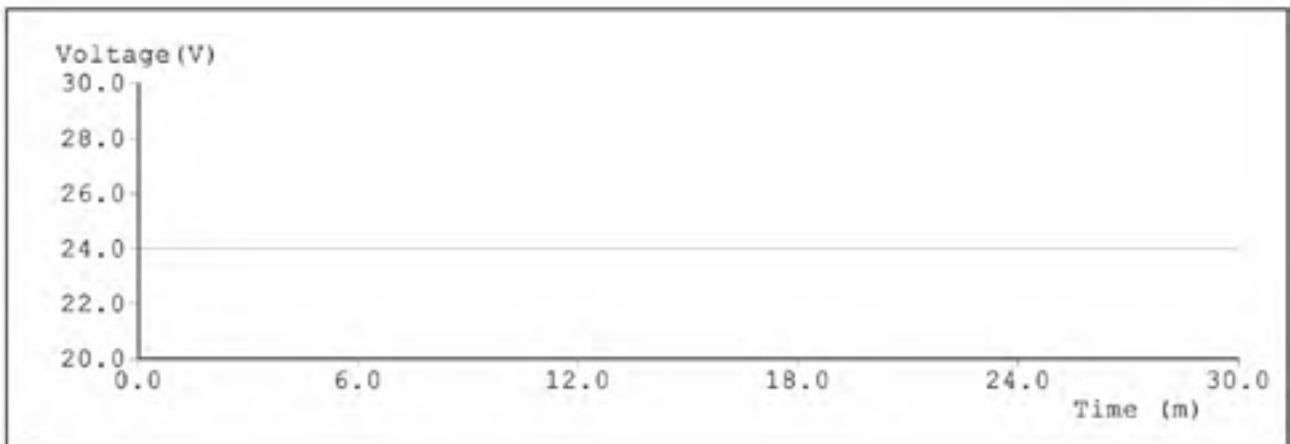
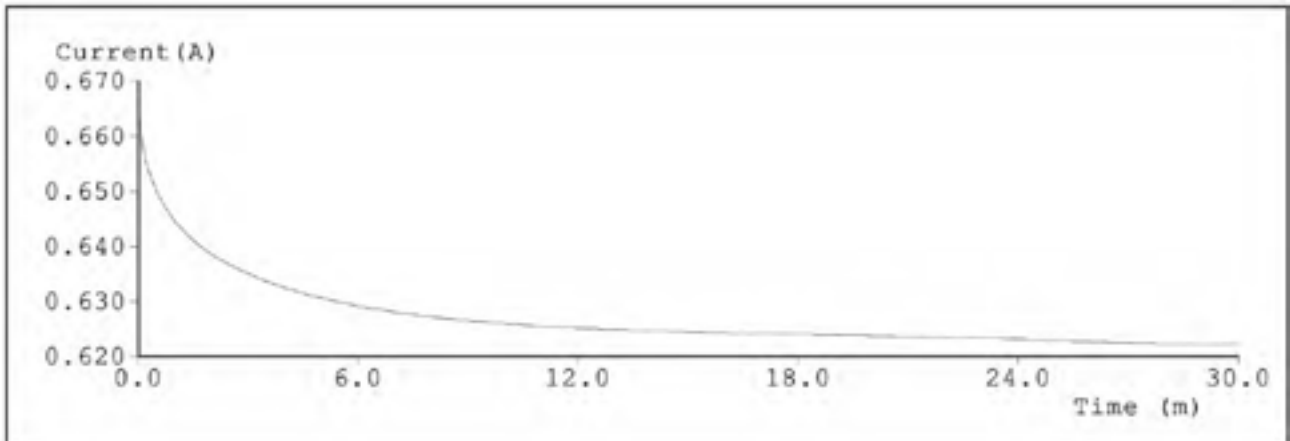
84	00h14m00s	0.6246	23.998	14.989	701.2	0.479	0.4106	0.275	0.5302	2453	93.4
85	00h14m10s	0.6246	23.998	14.989	700.58	0.479	0.4105	0.2749	0.5302	2453	93.4
86	00h14m20s	0.6246	23.998	14.989	701.2	0.479	0.4104	0.275	0.5302	2452	93.3
87	00h14m30s	0.6245	23.998	14.987	700.83	0.4789	0.4104	0.275	0.5302	2453	93.3
88	00h14m40s	0.6245	23.998	14.987	700.59	0.4792	0.4105	0.2751	0.5302	2450	93.3
89	00h14m50s	0.6245	23.998	14.987	700.93	0.4791	0.4105	0.275	0.5302	2452	93.3
90	00h15m00s	0.6244	23.998	14.984	700.53	0.4791	0.4107	0.2749	0.5303	2453	93.4
91	00h15m10s	0.6244	23.998	14.984	700.98	0.479	0.4106	0.2749	0.5302	2453	93.3
92	00h15m20s	0.6244	23.998	14.984	700.85	0.479	0.4106	0.2749	0.5302	2453	93.3
93	00h15m30s	0.6243	23.998	14.982	700.03	0.479	0.4105	0.275	0.5302	2452	93.3
94	00h15m40s	0.6243	23.998	14.982	700.11	0.4792	0.4105	0.2751	0.5303	2450	93.3
95	00h15m50s	0.6243	23.998	14.982	700.13	0.479	0.4103	0.275	0.5302	2451	93.4
96	00h16m00s	0.6243	23.998	14.982	699.86	0.4792	0.4105	0.2751	0.5302	2451	93.3
97	00h16m10s	0.6242	23.998	14.98	700.22	0.4788	0.4105	0.2749	0.5302	2454	93.3
98	00h16m20s	0.6242	23.998	14.98	700.41	0.4791	0.4107	0.2749	0.5303	2453	93.3
99	00h16m30s	0.6242	23.998	14.98	700.06	0.479	0.4105	0.2749	0.5302	2453	93.4
100	00h16m40s	0.6242	23.998	14.98	700.13	0.479	0.4105	0.275	0.5302	2453	93.3
101	00h16m50s	0.6241	23.998	14.977	700.46	0.479	0.4105	0.275	0.5302	2452	93.3
102	00h17m00s	0.6241	23.998	14.977	700.1	0.4791	0.4105	0.2751	0.5302	2451	93.3
103	00h17m10s	0.6241	23.998	14.977	699.88	0.4788	0.4105	0.2749	0.5302	2454	93.3
104	00h17m20s	0.6241	23.998	14.977	699.55	0.479	0.4104	0.275	0.5302	2452	93.4
105	00h17m30s	0.6241	23.998	14.977	700.18	0.479	0.4106	0.2749	0.5303	2454	93.3
106	00h17m40s	0.624	23.998	14.975	699.43	0.479	0.4103	0.2751	0.5301	2451	93.4
107	00h17m50s	0.624	23.998	14.975	700.12	0.4791	0.4106	0.275	0.5303	2452	93.3
108	00h18m00s	0.624	23.998	14.975	699.82	0.479	0.4104	0.275	0.5302	2452	93.4
109	00h18m10s	0.624	23.998	14.975	699.12	0.4791	0.4104	0.2751	0.5302	2451	93.4
110	00h18m20s	0.624	23.998	14.975	700.09	0.4791	0.4104	0.2751	0.5302	2451	93.3
111	00h18m30s	0.6239	23.998	14.972	699.38	0.479	0.4105	0.275	0.5302	2453	93.3
112	00h18m40s	0.6239	23.998	14.972	699.78	0.479	0.4105	0.275	0.5302	2452	93.3
113	00h18m50s	0.6239	23.998	14.972	699.6	0.4789	0.4104	0.275	0.5301	2453	93.3
114	00h19m00s	0.6239	23.998	14.972	699.4	0.4791	0.4106	0.275	0.5303	2453	93.4

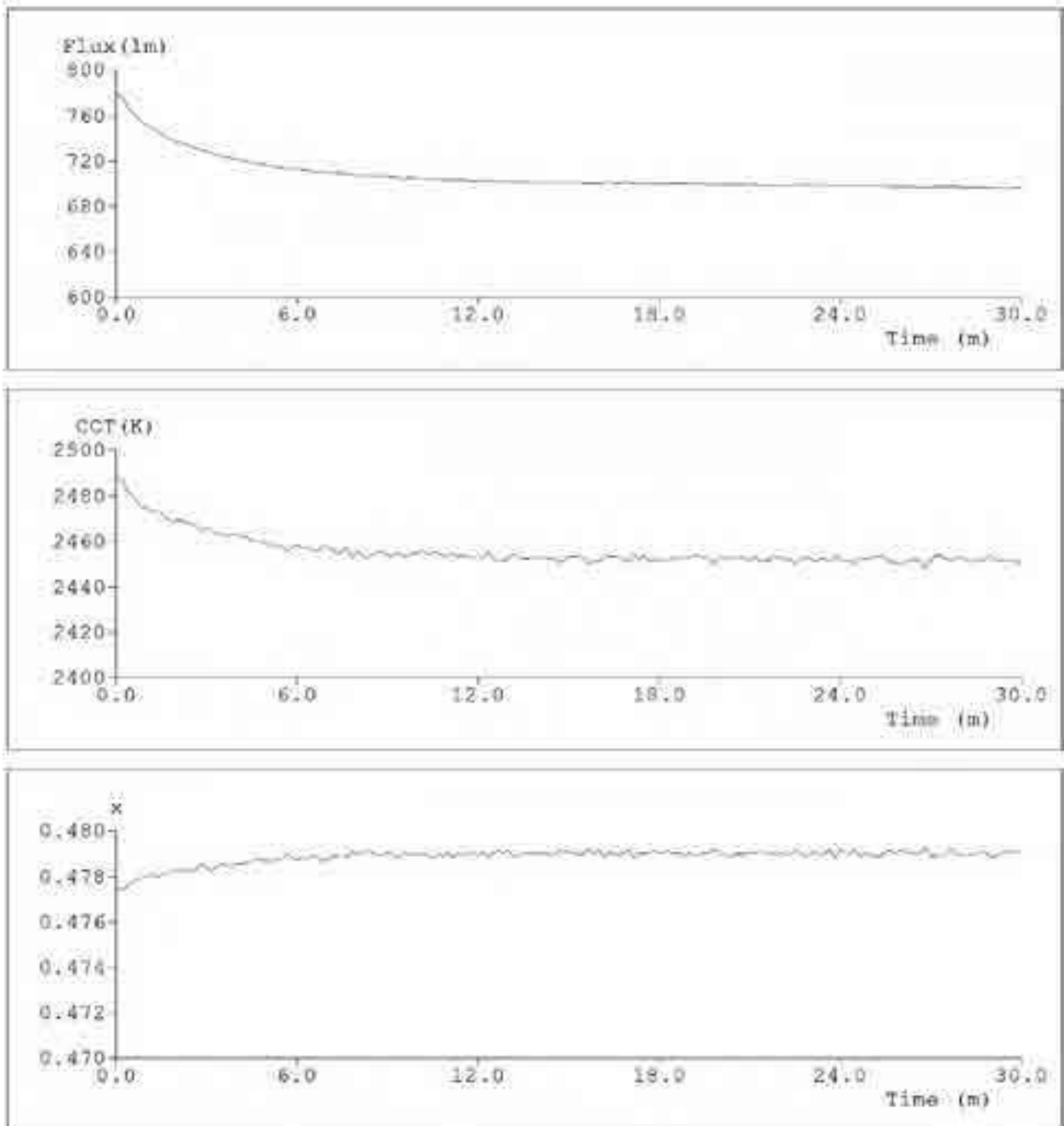
115	00h19m10s	0.6238	23.998	14.97	699.64	0.4789	0.4106	0.2749	0.5302	2454	93.4
116	00h19m20s	0.6238	23.998	14.97	699.24	0.479	0.4105	0.2749	0.5302	2453	93.4
117	00h19m30s	0.6238	23.998	14.97	699.53	0.479	0.4106	0.275	0.5302	2453	93.3
118	00h19m40s	0.6238	23.998	14.97	699.18	0.479	0.4105	0.275	0.5302	2453	93.4
119	00h19m50s	0.6238	23.998	14.97	699.35	0.4793	0.4105	0.2751	0.5303	2450	93.3
120	00h20m00s	0.6237	23.998	14.968	699.17	0.4789	0.4104	0.275	0.5302	2453	93.3
121	00h20m10s	0.6237	23.998	14.968	699.35	0.479	0.4104	0.275	0.5302	2452	93.3
122	00h20m20s	0.6237	23.998	14.968	698.85	0.4789	0.4103	0.275	0.5301	2453	93.3
123	00h20m30s	0.6237	23.998	14.968	698.96	0.479	0.4105	0.275	0.5302	2452	93.4
124	00h20m40s	0.6236	23.998	14.965	699.16	0.479	0.4105	0.2749	0.5302	2453	93.4
125	00h20m50s	0.6236	23.998	14.965	698.58	0.479	0.4105	0.275	0.5302	2453	93.4
126	00h21m00s	0.6236	23.998	14.965	698.63	0.4791	0.4104	0.2751	0.5302	2451	93.3
127	00h21m10s	0.6236	23.998	14.965	699.7	0.479	0.4106	0.2749	0.5302	2453	93.4
128	00h21m20s	0.6236	23.998	14.965	698.56	0.4791	0.4104	0.2751	0.5302	2451	93.3
129	00h21m30s	0.6235	23.998	14.963	698.77	0.4791	0.4105	0.275	0.5302	2452	93.3
130	00h21m40s	0.6235	23.998	14.963	698.42	0.479	0.4104	0.275	0.5302	2452	93.3
131	00h21m50s	0.6235	23.998	14.963	698.99	0.479	0.4106	0.2749	0.5302	2454	93.4
132	00h22m00s	0.6235	23.998	14.963	698.68	0.479	0.4106	0.275	0.5302	2453	93.3
133	00h22m10s	0.6234	23.998	14.96	698.42	0.4789	0.4102	0.275	0.5301	2452	93.3
134	00h22m20s	0.6234	23.998	14.96	698.28	0.479	0.4104	0.275	0.5302	2452	93.3
135	00h22m30s	0.6234	23.998	14.96	698.11	0.4791	0.4104	0.2751	0.5302	2450	93.3
136	00h22m40s	0.6234	23.998	14.96	698.43	0.4791	0.4106	0.275	0.5303	2452	93.3
137	00h22m50s	0.6233	23.998	14.958	699.45	0.4789	0.4104	0.2749	0.5301	2453	93.3
138	00h23m00s	0.6233	23.998	14.958	698.2	0.479	0.4103	0.275	0.5301	2452	93.3
139	00h23m10s	0.6233	23.998	14.958	698.73	0.4791	0.4104	0.2751	0.5302	2451	93.3
140	00h23m20s	0.6233	23.998	14.958	698.91	0.4789	0.4103	0.275	0.5301	2452	93.4
141	00h23m30s	0.6233	23.998	14.958	698.63	0.479	0.4104	0.275	0.5302	2452	93.3
142	00h23m40s	0.6232	23.998	14.956	698.52	0.4792	0.4106	0.2751	0.5303	2451	93.3
143	00h23m50s	0.6232	23.998	14.956	698.37	0.4788	0.4103	0.2749	0.5301	2454	93.4
144	00h24m00s	0.6231	23.998	14.953	697.83	0.4792	0.4106	0.275	0.5303	2451	93.4
145	00h24m10s	0.6231	23.998	14.953	697.76	0.4791	0.4105	0.275	0.5302	2452	93.3

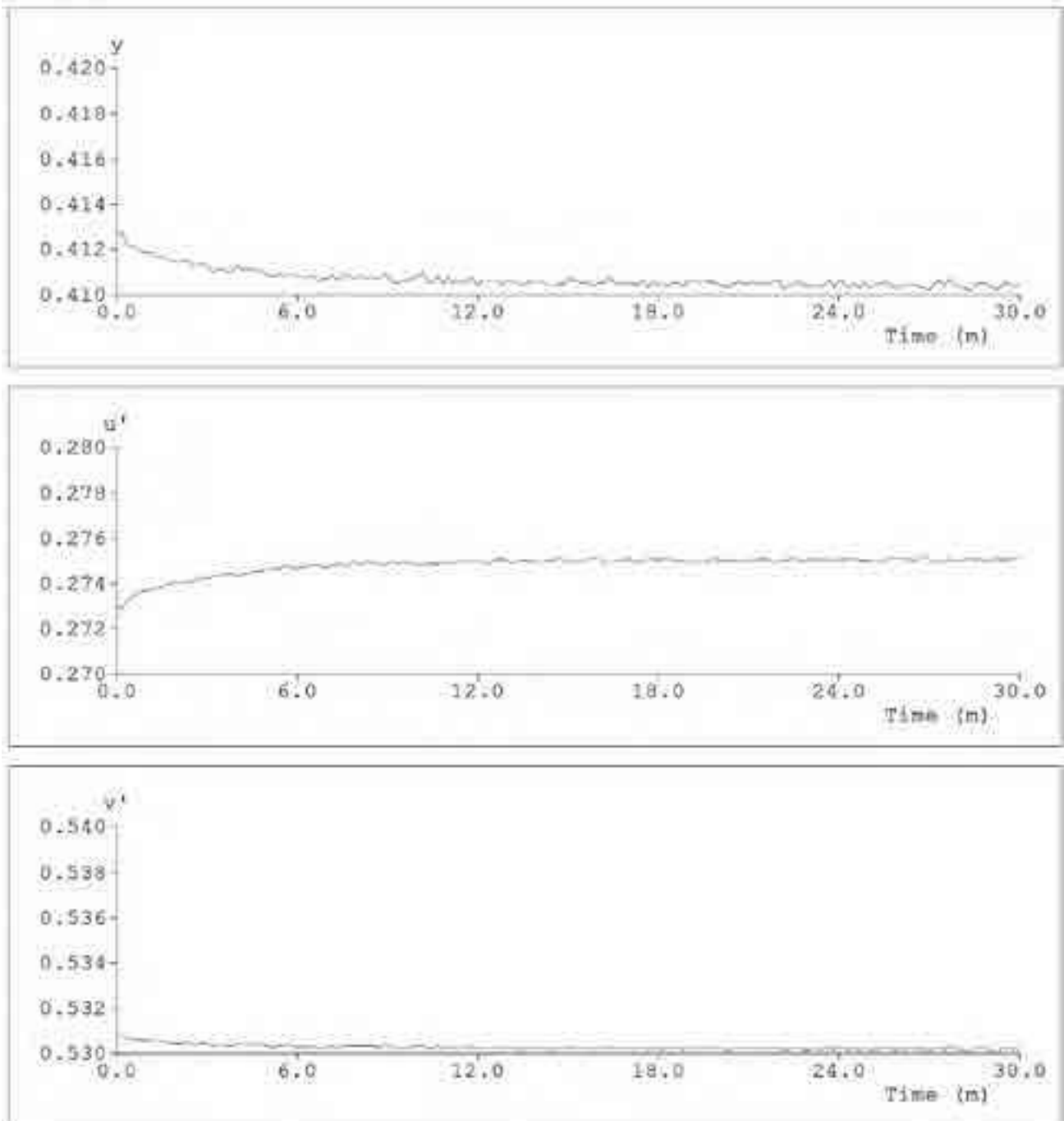
146	00h24m20s	0.623	23.998	14.951	697.87	0.479	0.4103	0.275	0.5301	2452	93.3
147	00h24m30s	0.623	23.998	14.951	697.49	0.4792	0.4105	0.2751	0.5302	2450	93.4
148	00h24m40s	0.6229	23.998	14.948	698.17	0.4789	0.4103	0.275	0.5301	2453	93.3
149	00h24m50s	0.6229	23.998	14.948	697.97	0.4791	0.4105	0.275	0.5302	2452	93.4
150	00h25m00s	0.6228	23.998	14.946	697.6	0.4789	0.4102	0.275	0.5301	2452	93.3
151	00h25m10s	0.6228	23.998	14.946	697.48	0.4789	0.4104	0.2749	0.5302	2453	93.3
152	00h25m20s	0.6228	23.998	14.946	697.85	0.4789	0.4104	0.2749	0.5302	2454	93.4
153	00h25m30s	0.6227	23.998	14.944	697.46	0.4791	0.4105	0.275	0.5302	2452	93.3
154	00h25m40s	0.6227	23.998	14.944	697.04	0.4792	0.4105	0.2751	0.5302	2451	93.3
155	00h25m50s	0.6227	23.998	14.944	697.08	0.479	0.4102	0.2751	0.5301	2451	93.3
156	00h26m00s	0.6226	23.998	14.941	696.96	0.4792	0.4104	0.2751	0.5302	2450	93.3
157	00h26m10s	0.6226	23.998	14.941	697.19	0.479	0.4103	0.2751	0.5302	2451	93.3
158	00h26m20s	0.6226	23.998	14.941	697.29	0.479	0.4104	0.275	0.5302	2452	93.3
159	00h26m30s	0.6225	23.998	14.939	696.89	0.479	0.4104	0.275	0.5302	2452	93.4
160	00h26m40s	0.6225	23.998	14.939	696.36	0.479	0.4103	0.2751	0.5302	2451	93.3
161	00h26m50s	0.6225	23.998	14.939	696.62	0.4793	0.4103	0.2753	0.5302	2448	93.3
162	00h27m00s	0.6225	23.998	14.939	696.86	0.4789	0.4102	0.275	0.5301	2452	93.3
163	00h27m10s	0.6224	23.998	14.936	696.96	0.4789	0.4105	0.2749	0.5302	2454	93.3
164	00h27m20s	0.6224	23.998	14.936	697	0.479	0.4106	0.2749	0.5302	2454	93.3
165	00h27m30s	0.6224	23.998	14.936	696.96	0.4789	0.4104	0.275	0.5301	2452	93.3
166	00h27m40s	0.6224	23.998	14.936	697.15	0.4792	0.4107	0.275	0.5303	2451	93.3
167	00h27m50s	0.6223	23.998	14.934	696.81	0.479	0.4104	0.275	0.5302	2452	93.4
168	00h28m00s	0.6223	23.998	14.934	696.82	0.4789	0.4104	0.275	0.5301	2453	93.3
169	00h28m10s	0.6223	23.998	14.934	696.08	0.4789	0.4103	0.275	0.5301	2452	93.4
170	00h28m20s	0.6223	23.998	14.934	695.9	0.4789	0.4101	0.2751	0.5301	2451	93.3
171	00h28m30s	0.6223	23.998	14.934	696.4	0.479	0.4104	0.275	0.5302	2452	93.3
172	00h28m40s	0.6222	23.998	14.932	696.47	0.4791	0.4105	0.275	0.5302	2451	93.3
173	00h28m50s	0.6222	23.998	14.932	696.16	0.479	0.4105	0.275	0.5302	2452	93.4
174	00h29m00s	0.6222	23.998	14.932	696.52	0.4788	0.4104	0.2749	0.5301	2454	93.3
175	00h29m10s	0.6222	23.998	14.932	695.84	0.4789	0.4102	0.2751	0.5301	2451	93.3
176	00h29m20s	0.6222	23.998	14.932	696.1	0.4789	0.4103	0.275	0.5301	2452	93.3

177	00h29m30s	0.6222	23.998	14.932	695.8	0.4791	0.4105	0.275	0.5302	2451	93.3
178	00h29m40s	0.6221	23.998	14.929	695.66	0.479	0.4104	0.275	0.5302	2452	93.3
179	00h29m50s	0.6221	23.998	14.929	695.98	0.4791	0.4103	0.2751	0.5302	2451	93.3
180	00h30m00s	0.6221	23.998	14.929	695.92	0.4791	0.4103	0.2751	0.5302	2451	93.3

Test curves



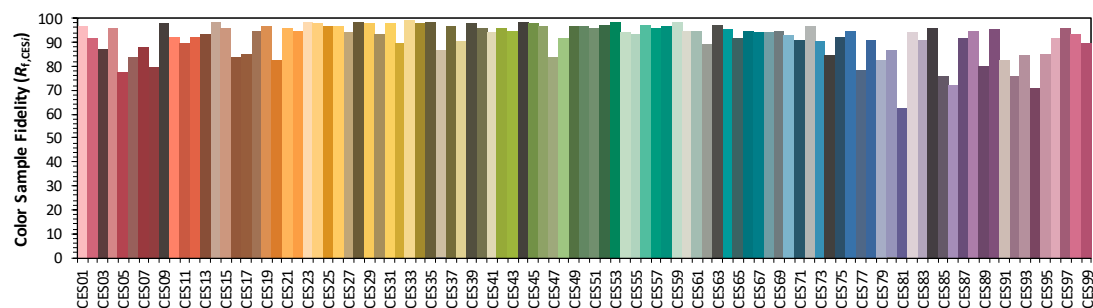
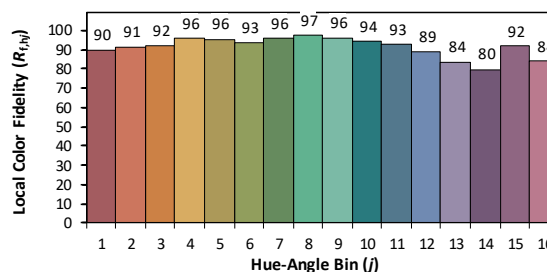
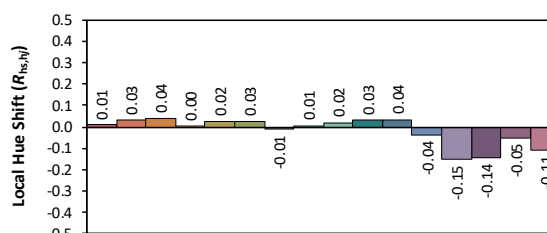
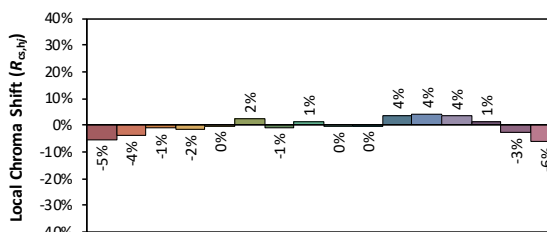




ANSI/IES TM-30-18 Color Rendition Report

Manufacturer:

Model: LFUMAY-T1000WL-L27-DF-0-15 24V 15W/m

 $x = 0.4791$ y 0.4119
$$u' \quad 0.2744$$
 $V' \quad 0.5308$

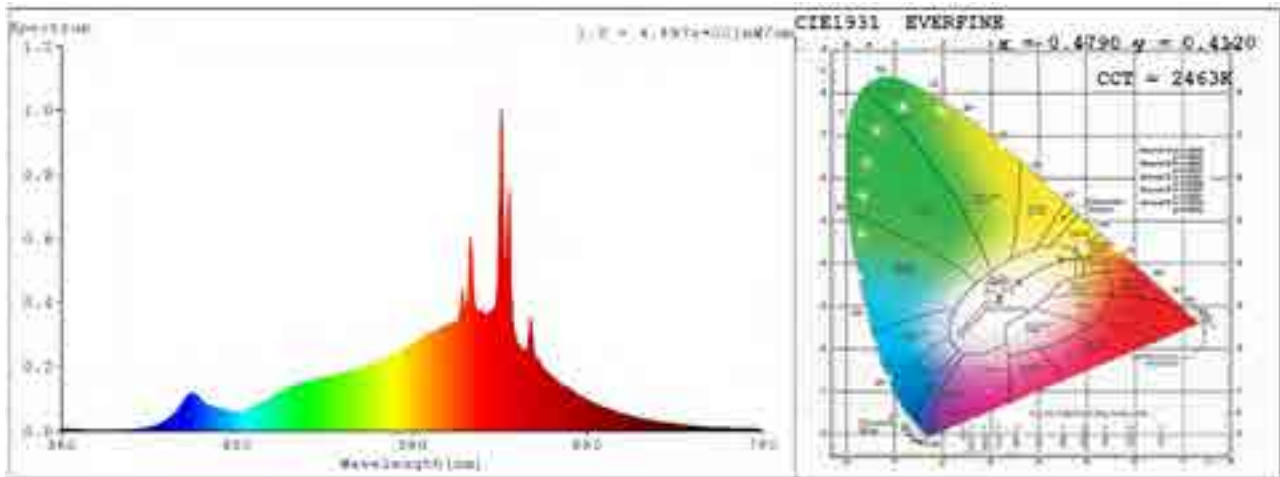
CIE 13.3-1995
(CRI)

R_a 93

 R_9 54

Colors are for visual orientation purposes only. Created with the ANSI/IES TM-30-18 Calculator Version 2.00.

5.3 Relative Spectral Power Distribution



nm	mW	nm	mW	nm	mW	nm	mW	nm	mW
380	0.0061	414	0.0028	448	0.08	482	0.0591	516	0.1459
381	0.009	415	0.0019	449	0.087	483	0.0604	517	0.1487
382	0.0009	416	0.003	450	0.0946	484	0.0631	518	0.1498
383	0.0054	417	0.0026	451	0.104	485	0.065	519	0.1497
384	0.0002	418	0.0032	452	0.1105	486	0.0671	520	0.1515
385	0.0034	419	0.0031	453	0.1159	487	0.0694	521	0.1538
386	0.0028	420	0.0041	454	0.1151	488	0.0718	522	0.1543
387	0.0016	421	0.0046	455	0.1164	489	0.0727	523	0.1572
388	0.0016	422	0.0054	456	0.1165	490	0.0762	524	0.1579
389	0.0014	423	0.0054	457	0.1091	491	0.078	525	0.1576
390	0.0015	424	0.0055	458	0.1046	492	0.0817	526	0.1627
391	0.002	425	0.0072	459	0.0985	493	0.0842	527	0.1626
392	0.0015	426	0.007	460	0.0931	494	0.0872	528	0.1634
393	0.0019	427	0.0094	461	0.086	495	0.0894	529	0.1663
394	0.0008	428	0.0083	462	0.0824	496	0.094	530	0.1654
395	0.0024	429	0.0104	463	0.0794	497	0.0944	531	0.1658
396	0.0021	430	0.0113	464	0.0769	498	0.0993	532	0.1674
397	0.0008	431	0.0128	465	0.0767	499	0.1025	533	0.1669
398	0.0015	432	0.014	466	0.0738	500	0.1067	534	0.1721
399	0.0022	433	0.0167	467	0.0733	501	0.1097	535	0.1687
400	0.0024	434	0.0188	468	0.0723	502	0.1129	536	0.1712
401	0	435	0.0213	469	0.0697	503	0.1155	537	0.1744
402	0.001	436	0.0228	470	0.0692	504	0.1166	538	0.1753
403	0	437	0.0247	471	0.0666	505	0.1232	539	0.1742
404	0.0018	438	0.0269	472	0.0666	506	0.1216	540	0.1788
405	0.0019	439	0.0299	473	0.0654	507	0.127	541	0.178
406	0.0014	440	0.0348	474	0.0609	508	0.1295	542	0.1803
407	0.0008	441	0.0382	475	0.0631	509	0.1331	543	0.1841
408	0.0003	442	0.0433	476	0.0587	510	0.1348	544	0.1826
409	0.0009	443	0.0479	477	0.0579	511	0.137	545	0.1855
410	0.0021	444	0.0526	478	0.0578	512	0.1392	546	0.187
411	0.0016	445	0.0589	479	0.0573	513	0.1394	547	0.1862
412	0.0026	446	0.0653	480	0.0576	514	0.1419	548	0.1879
413	0.0034	447	0.0736	481	0.0589	515	0.1442	549	0.1886

nm	mW	nm	mW	nm	mW	nm	mW	nm	mW
550	0.1923	599	0.329	648	0.3244	697	0.0581	746	0.013
551	0.1947	600	0.3271	649	0.2538	698	0.0566	747	0.0123
552	0.1973	601	0.3293	650	0.2297	699	0.0543	748	0.0121
553	0.1996	602	0.3336	651	0.2231	700	0.0535	749	0.0116
554	0.1991	603	0.3371	652	0.2214	701	0.0516	750	0.0108
555	0.2028	604	0.3393	653	0.2103	702	0.0509	751	0.0113
556	0.2057	605	0.3404	654	0.202	703	0.0481	752	0.0107
557	0.205	606	0.3414	655	0.195	704	0.0467	753	0.0104
558	0.2082	607	0.3675	656	0.1894	705	0.0455	754	0.0102
559	0.2067	608	0.4214	657	0.1849	706	0.0431	755	0.0105
560	0.2125	609	0.4345	658	0.1758	707	0.0425	756	0.0095
561	0.2135	610	0.3835	659	0.1727	708	0.0429	757	0.0093
562	0.2163	611	0.3893	660	0.1692	709	0.04	758	0.0092
563	0.2211	612	0.4831	661	0.1634	710	0.0391	759	0.0086
564	0.2225	613	0.5969	662	0.1574	711	0.037	760	0.0087
565	0.2253	614	0.5425	663	0.1526	712	0.0364	761	0.0087
566	0.2261	615	0.4297	664	0.1484	713	0.0355	762	0.0081
567	0.2328	616	0.3846	665	0.1445	714	0.0345	763	0.0083
568	0.2357	617	0.3719	666	0.1398	715	0.0337	764	0.0078
569	0.235	618	0.3709	667	0.1388	716	0.0319	765	0.0072
570	0.2398	619	0.376	668	0.1361	717	0.0306	766	0.0071
571	0.242	620	0.3722	669	0.1336	718	0.0302	767	0.0073
572	0.2444	621	0.3627	670	0.1321	719	0.0297	768	0.0072
573	0.2504	622	0.3623	671	0.1274	720	0.0286	769	0.0064
574	0.2478	623	0.3661	672	0.1224	721	0.0277	770	0.0067
575	0.2553	624	0.3692	673	0.1171	722	0.027	771	0.0064
576	0.2576	625	0.3719	674	0.1135	723	0.0254	772	0.0061
577	0.26	626	0.3791	675	0.1103	724	0.0253	773	0.0063
578	0.2655	627	0.3837	676	0.1064	725	0.0238	774	0.0059
579	0.2682	628	0.4215	677	0.1047	726	0.0234	775	0.0059
580	0.2712	629	0.5828	678	0.1008	727	0.0224	776	0.0055
581	0.2725	630	0.9055	679	0.0984	728	0.0223	777	0.0056
582	0.2768	631	0.9434	680	0.095	729	0.0212	778	0.0054
583	0.2789	632	0.6317	681	0.0932	730	0.0207	779	0.0051
584	0.284	633	0.4948	682	0.0889	731	0.02	780	0.0051
585	0.2872	634	0.6231	683	0.0883	732	0.0195		
586	0.2885	635	0.7469	684	0.0848	733	0.019		
587	0.2933	636	0.5315	685	0.0824	734	0.0177		
588	0.2986	637	0.362	686	0.0808	735	0.0173		
589	0.3005	638	0.3092	687	0.0779	736	0.0171		
590	0.3024	639	0.2846	688	0.0764	737	0.0164		
591	0.3071	640	0.2742	689	0.0744	738	0.0161		
592	0.3077	641	0.2644	690	0.0714	739	0.0157		
593	0.3085	642	0.2579	691	0.0702	740	0.0146		
594	0.3099	643	0.2506	692	0.0674	741	0.0144		
595	0.3148	644	0.2477	693	0.0653	742	0.0139		
596	0.3184	645	0.2552	694	0.0647	743	0.0138		
597	0.3223	646	0.2861	695	0.0616	744	0.013		
598	0.3273	647	0.3482	696	0.0595	745	0.0131		

6. Goniophotometer Test results

6.1 Test Data

Test Ambient Temperature	25.2°C	Test orientation	Downward
Operate time(Min.)	90	stabilization time(Min.)	30

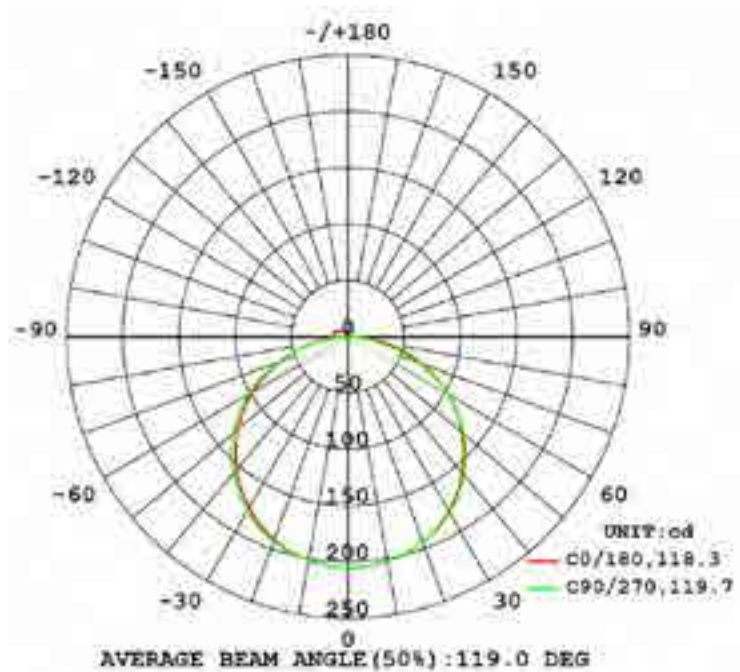
Electrical Measurement

Input Voltage (V)	Frequency (Hz)	Input Current(A)	Power Factor	Power(W)
24	--	0.621	1.0000	14.904

Optical Measurement

Luminous Flux (lm)	Efficacy(lm/W)	I _{max} (cd)	η up (%)	η down (%)
655.529	43.98	205.2	2.5	97.5

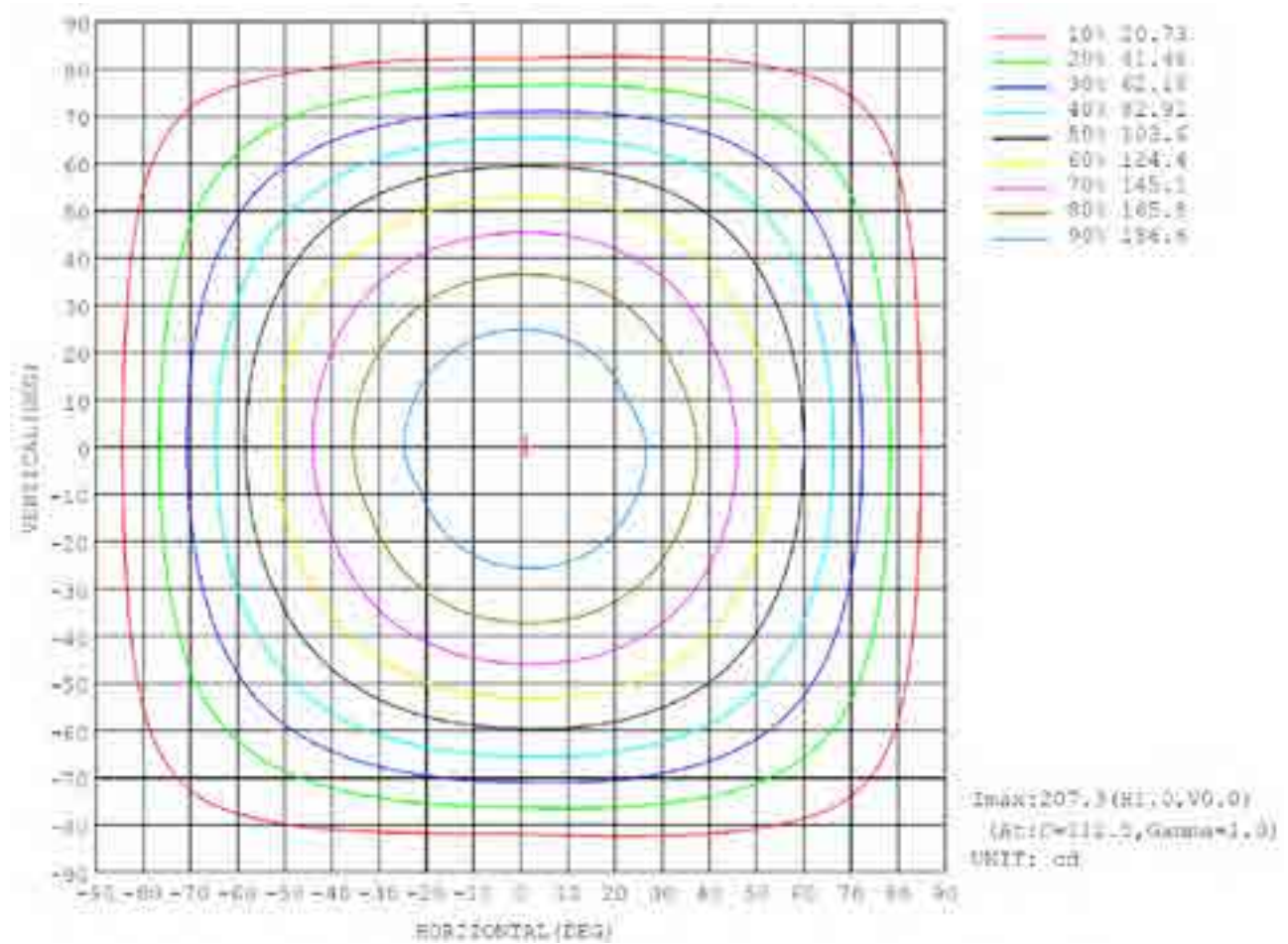
6.2 Luminous Intensity Distribution



6.3 Zonal Flux Diagram

γ	00	045	090	045	090	045	090	045	γ	0000	0444	0888
10	122.74	121.18	122.8	122.8	122.8	122.8	122.8	122.8	00-10	125.42	125.44	125.46
20	124.3	124.7	124.2	124.5	124.7	124.3	124.4	124.3	10-20	124.83	124.84	124.85
30	125.8	125.8	125.1	127.5	125.6	125.3	125.38	125.4	20-30	125.35	125.37	125.39
40	126.4	126.7	126.1	127.1	126.9	126.4	126.4	126.4	30-40	126.1	126.12	126.14
50	126.4	126.1	126.2	126.3	126.4	126.3	126.4	126.4	40-50	126.4	126.4	126.4
60	126.4	126.7	126.1	127.38	127.25	126.43	127.25	126.4	50-60	126.43	126.44	126.45
70	126.48	126.33	126.37	126.11	126.37	126.11	126.37	126.37	60-70	126.37	126.38	126.39
80	126.47	126.48	126.48	126.17	126.17	126.17	126.17	126.17	70-80	126.17	126.17	126.17
90	126.4	126.4	126.4	126.4	126.4	126.4	126.4	126.4	80-90	126.4	126.4	126.4
100	126.4	126.4	126.4	126.4	126.4	126.4	126.4	126.4	90-100	126.4	126.4	126.4
110	126.4	126.4	126.4	126.4	126.4	126.4	126.4	126.4	100-110	126.4	126.4	126.4
120	126.4	126.4	126.4	126.4	126.4	126.4	126.4	126.4	110-120	126.4	126.4	126.4
130	126.4	126.4	126.4	126.4	126.4	126.4	126.4	126.4	120-130	126.4	126.4	126.4
140	126.4	126.4	126.4	126.4	126.4	126.4	126.4	126.4	130-140	126.4	126.4	126.4
150	126.4	126.4	126.4	126.4	126.4	126.4	126.4	126.4	140-150	126.4	126.4	126.4
160	126.4	126.4	126.4	126.4	126.4	126.4	126.4	126.4	150-160	126.4	126.4	126.4
170	126.4	126.4	126.4	126.4	126.4	126.4	126.4	126.4	160-170	126.4	126.4	126.4
180	126.4	126.4	126.4	126.4	126.4	126.4	126.4	126.4	170-180	126.4	126.4	126.4
190	126.4	126.4	126.4	126.4	126.4	126.4	126.4	126.4	180-190	126.4	126.4	126.4
200	126.4	126.4	126.4	126.4	126.4	126.4	126.4	126.4	190-200	126.4	126.4	126.4
210	126.4	126.4	126.4	126.4	126.4	126.4	126.4	126.4	200-210	126.4	126.4	126.4
220	126.4	126.4	126.4	126.4	126.4	126.4	126.4	126.4	210-220	126.4	126.4	126.4
230	126.4	126.4	126.4	126.4	126.4	126.4	126.4	126.4	220-230	126.4	126.4	126.4
240	126.4	126.4	126.4	126.4	126.4	126.4	126.4	126.4	230-240	126.4	126.4	126.4
250	126.4	126.4	126.4	126.4	126.4	126.4	126.4	126.4	240-250	126.4	126.4	126.4
260	126.4	126.4	126.4	126.4	126.4	126.4	126.4	126.4	250-260	126.4	126.4	126.4
270	126.4	126.4	126.4	126.4	126.4	126.4	126.4	126.4	260-270	126.4	126.4	126.4
280	126.4	126.4	126.4	126.4	126.4	126.4	126.4	126.4	270-280	126.4	126.4	126.4
290	126.4	126.4	126.4	126.4	126.4	126.4	126.4	126.4	280-290	126.4	126.4	126.4
300	126.4	126.4	126.4	126.4	126.4	126.4	126.4	126.4	290-300	126.4	126.4	126.4

6.4 Isocandela Diagram



6.5 Luminous Distribution Intensity Data

Table--1

UNIT: cd

C (DMG)	0	22.5	45	67.5	90	112.5	135	157.5	180	202.5	225	247.5	270	292.5	315	337.5			
(DEG)	0	22.5	45	67.5	90	112.5	135	157.5	180	202.5	225	247.5	270	292.5	315	337.5			
0	205	205	205	205	205	205	205	205	205	205	205	205	205	205	205	205			
5	205	205	205	205	205	205	204	204	204	204	204	204	204	204	204	205			
10	203	203	203	203	203	202	202	202	202	202	202	202	202	202	202	203			
15	199	199	199	199	199	199	198	198	198	198	198	198	198	198	199	199			
20	194	194	195	195	194	194	193	192	192	192	192	193	193	193	194	194			
25	187	188	188	188	188	187	186	185	184	185	185	186	187	187	187	187			
30	179	180	180	181	180	179	178	176	176	176	177	178	179	179	179	179			
35	169	170	171	172	171	170	168	166	165	166	167	169	169	170	170	169			
40	158	159	160	161	160	159	157	155	154	154	155	158	158	159	159	159			
45	146	147	148	149	148	147	145	142	141	142	144	146	146	147	147	146			
50	132	133	135	136	134	133	131	129	128	128	130	132	133	134	134	133			
55	118	119	120	121	119	118	114	114	113	113	115	117	118	119	119	119			
60	103	103	105	105	103	102	100.0	97.9	97.2	97.9	99.4	101	101	101	103	103			
65	86.5	87.0	87.9	87.4	86.9	84.4	82.9	81.2	80.8	81.4	82.7	83.7	84.1	84.1	86.4	86.9			
70	69.7	70.0	70.2	69.1	68.1	65.9	64.1	64.0	64.0	64.4	65.1	65.8	65.7	68.5	69.9	70.0			
75	52.5	52.5	52.0	50.1	46.6	44.8	43.1	44.8	47.0	47.3	47.1	46.9	46.4	49.9	51.9	52.7			
80	35.5	35.1	34.0	31.2	27.4	26.8	26.2	31.1	31.2	30.2	29.0	29.0	28.0	31.4	34.2	35.4			
85	19.8	19.2	17.6	14.5	11.3	11.4	17.0	19.3	19.5	18.4	14.8	13.4	11.9	15.0	17.9	19.7			
90	8.30	7.82	6.42	4.29	1.72	1.36	2.09	4.93	1.47	2.04	2.92	5.15	2.29	4.70	6.63	8.03			
95	0.10	0.10	0.11	0.57	0.10	2.58	6.66	0.42	0.33	0.34	4.55	1.95	0.12	0.50	0.13	0.12			
100	1.41	1.88	1.77	0.99	0.29	4.30	9.36	12.9	13.4	12.6	8.19	4.72	0.60	1.45	1.76	1.57			
105	0.95	1.43	1.46	1.62	0.56	4.01	9.71	12.8	13.3	12.5	9.51	4.17	1.65	1.65	1.51	0.93			
110	0.85	1.30	1.55	1.52	1.49	2.84	9.27	12.4	13.0	12.1	8.00	2.73	1.49	1.41	1.26	0.83			
115	0.79	1.21	1.40	1.43	1.40	2.25	8.13	11.4	12.2	11.1	7.71	1.87	1.27	1.18	0.95	0.76			
120	0.70	1.06	1.26	1.34	1.32	1.98	6.37	10.00	10.9	9.67	5.89	1.49	1.04	0.89	0.62	0.55			
125	0.68	0.89	1.14	1.22	1.25	1.72	4.33	8.16	9.29	7.90	3.71	1.10	0.78	0.65	0.43	0.52			
130	0.48	0.75	1.07	1.07	1.12	1.15	3.44	5.79	7.15	5.59	2.55	0.51	0.51	0.37	0.39	0.43			
135	0.40	0.66	0.99	1.04	1.02	0.94	2.82	4.08	4.73	3.78	2.06	0.27	0.33	0.28	0.41	0.40			
140	0.40	0.63	0.86	0.71	0.99	0.86	2.15	3.24	3.50	2.83	1.69	0.39	0.23	0.31	0.38	0.44			
145	0.40	0.57	0.62	0.85	0.21	0.85	1.48	2.46	2.02	2.38	1.25	0.40	0.23	0.35	0.24	0.45			
150	0.38	0.44	0.21	0.75	0.20	0.72	0.21	1.60	2.02	1.77	0.27	0.42	0.32	0.38	0.39	0.43			
155	0.22	0.21	0.52	0.44	0.22	0.63	0.71	0.22	1.12	0.67	0.29	0.42	0.36	0.41	0.40	0.30			
160	0.37	0.36	0.52	0.57	0.23	0.55	0.58	0.54	0.34	0.36	0.54	0.41	0.37	0.38	0.43	0.41			
165	0.36	0.36	0.40	0.49	0.23	0.50	0.40	0.39	0.49	0.49	0.44	0.39	0.37	0.28	0.41	0.40			
170	0.39	0.36	0.30	0.30	0.23	0.36	0.35	0.34	0.40	0.40	0.39	0.38	0.35	0.28	0.38	0.41			
175	0.39	0.39	0.34	0.28	0.28	0.30	0.33	0.35	0.38	0.38	0.38	0.37	0.33	0.29	0.30	0.41			
180	0.28	0.27	0.27	0.27	0.28	0.28	0.28	0.24	0.28	0.28	0.27	0.27	0.27	0.28	0.29	0.29			

7. Photo of sample

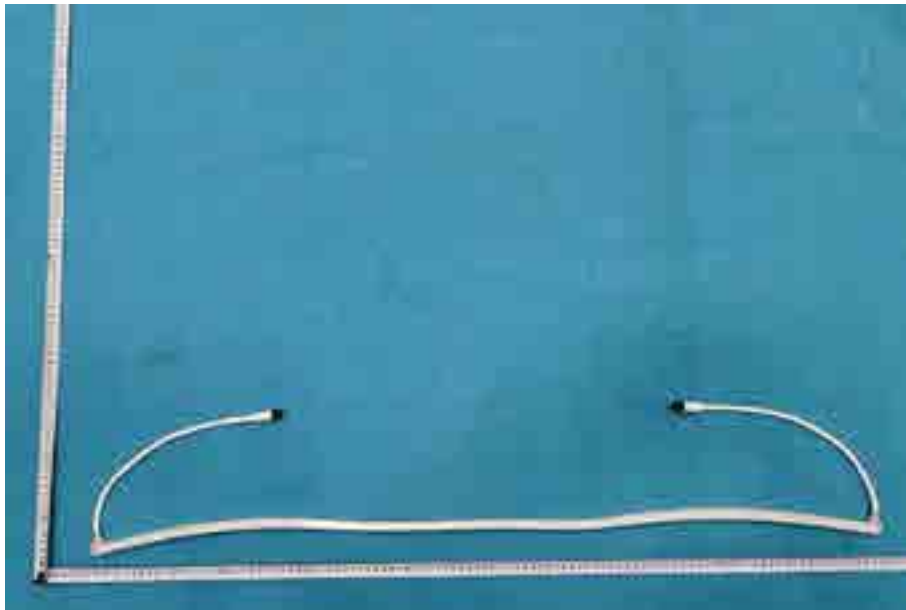


Figure 1 Overview

---End of Report---