



Test Report Of ANSI/IES LM-79-19

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

Report Number : N02A23090145L00701

Client : Luci Pte. Ltd.

Address : 52A Tanjong Pagar Road, Singapore 088473

Test Model : LSXWY-1000-L27-DF-I-2, LSXWY-1000-L27-DF-I-4

LSXWY-1000-L27-DF-I-6, LSXWY-1000-L27-DF-I-10

LSXWY-1000-L27-DF-I-15

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 : Sep. 28, 2023

Date of test : Sep. 28, 2023 – Oct. 18, 2023

Date of report : Oct. 19, 2023

Tested by:

Jarvis Zhang

Jarvis Zhang/ Test Engineer

Checked by:

Sandy Chen

Sandy Chen/ Project Engineer



Approved by:
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:	LSXWY-1000-L27-DF-I-2, LSXWY-1000-L27-DF-I-4 LSXWY-1000-L27-DF-I-6, LSXWY-1000-L27-DF-I-10 LSXWY-1000-L27-DF-I-15
Manufacturer:	
Product Type:	SHIN silux wide
Rated Voltage/Frequency:	DC24V
Rated Power:	2W, 4W, 6W, 10W, 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	2024/09/17
Digital Power Meter	MD-E001	PF2010	2024/09/17
AC Testing Power Source	MD-E002	DPS1060	2024/09/17
Total Spectral Radiant Flux Standard Lamp	MD-E007	D908S	2024/10/13
Integrating Sphere System	MD-E029	2M	2024/09/17
High Accuracy Array Spectroradio Meter	MD-E011	HAAS-3000	2024/09/17
Digital Power Meter	MD-E008	PF310	2024/09/17
AC Testing Power Source	MD-E010	DPS1010	2024/09/17
Standard Lamp	MD-E036	D204	2024/10/13

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 for LSXWY-1000-L27-DF-I-2

5.1 Test Data

Test Ambient Temperature (Integrating sphere internal temperature)	25.1°C	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	0.0901	23.998	2.1622	204.4	0.463	0.4073	0.266	0.5266	2632	94.4
1	00h00m10s	0.0901	23.998	2.1622	204.47	0.4629	0.4076	0.2658	0.5267	2635	94.6
2	00h00m20s	0.0901	23.998	2.1622	204.41	0.463	0.4075	0.2659	0.5266	2634	94.6
3	00h00m30s	0.0901	23.998	2.1622	204.25	0.4625	0.4073	0.2657	0.5265	2638	94.5
4	00h00m40s	0.0901	23.998	2.1622	204.16	0.4626	0.4076	0.2656	0.5266	2639	94.7
5	00h00m50s	0.0901	23.998	2.1622	204.83	0.4628	0.4076	0.2658	0.5266	2636	94.5
6	00h01m00s	0.0901	23.998	2.1622	204.16	0.4631	0.4074	0.266	0.5266	2631	94.6
7	00h01m10s	0.0901	23.998	2.1622	204.66	0.4634	0.4082	0.2659	0.527	2632	94.5
8	00h01m20s	0.0901	23.998	2.1622	204.29	0.463	0.4076	0.2659	0.5267	2634	94.6
9	00h01m30s	0.0901	23.998	2.1622	204.33	0.463	0.4073	0.266	0.5266	2631	94.5
10	00h01m40s	0.0901	23.998	2.1622	204.74	0.4628	0.4073	0.2659	0.5265	2634	94.6
11	00h01m50s	0.0901	23.998	2.1622	204.39	0.4628	0.4072	0.266	0.5265	2633	94.5
12	00h02m00s	0.0901	23.998	2.1622	204.75	0.4629	0.4072	0.266	0.5265	2631	94.5
13	00h02m10s	0.0901	23.998	2.1622	204.1	0.4632	0.4074	0.2661	0.5266	2629	94.5
14	00h02m20s	0.0902	23.998	2.1646	204.4	0.4633	0.4074	0.2661	0.5267	2629	94.5
15	00h02m30s	0.0902	23.998	2.1646	204.51	0.4628	0.4075	0.2658	0.5266	2636	94.6
16	00h02m40s	0.0902	23.998	2.1646	204.39	0.463	0.4074	0.266	0.5266	2632	94.5
17	00h02m50s	0.0902	23.998	2.1646	204.59	0.4631	0.4077	0.2659	0.5267	2633	94.6
18	00h03m00s	0.0902	23.998	2.1646	204.19	0.4631	0.4076	0.266	0.5267	2632	94.6
19	00h03m10s	0.0902	23.998	2.1646	204.51	0.4632	0.4076	0.266	0.5267	2631	94.5
20	00h03m20s	0.0902	23.998	2.1646	204.39	0.4632	0.4075	0.2661	0.5267	2630	94.4
21	00h03m30s	0.0902	23.998	2.1646	204.33	0.463	0.4075	0.2659	0.5266	2633	94.5

22	00h03m40s	0.0902	23.998	2.1646	204.65	0.4628	0.4075	0.2658	0.5266	2636	94.5
23	00h03m50s	0.0902	23.998	2.1646	204.44	0.4632	0.4074	0.2661	0.5266	2629	94.6
24	00h04m00s	0.0902	23.998	2.1646	204.58	0.4632	0.408	0.2658	0.5268	2634	94.5
25	00h04m10s	0.0902	23.998	2.1646	204.31	0.4635	0.4078	0.2661	0.5268	2629	94.5
26	00h04m20s	0.0902	23.998	2.1646	204.43	0.4631	0.4077	0.2659	0.5267	2633	94.5
27	00h04m30s	0.0902	23.998	2.1646	204.44	0.463	0.4075	0.2659	0.5266	2633	94.5
28	00h04m40s	0.0902	23.998	2.1646	204.52	0.463	0.4077	0.2659	0.5267	2634	94.5
29	00h04m50s	0.0902	23.998	2.1646	204.55	0.4635	0.408	0.266	0.5269	2630	94.5
30	00h05m00s	0.0902	23.998	2.1646	204.34	0.4633	0.4076	0.2661	0.5267	2630	94.6
31	00h05m10s	0.0902	23.998	2.1646	204.83	0.4634	0.4084	0.2658	0.527	2634	94.5
32	00h05m20s	0.0902	23.998	2.1646	204.29	0.4631	0.4074	0.266	0.5266	2631	94.5
33	00h05m30s	0.0902	23.998	2.1646	204.31	0.4634	0.4078	0.2661	0.5268	2630	94.5
34	00h05m40s	0.0902	23.998	2.1646	204.35	0.4633	0.4077	0.266	0.5268	2630	94.5
35	00h05m50s	0.0902	23.998	2.1646	204.24	0.4632	0.4074	0.2661	0.5266	2630	94.6
36	00h06m00s	0.0902	23.998	2.1646	204.44	0.4631	0.4074	0.266	0.5266	2631	94.4
37	00h06m10s	0.0902	23.998	2.1646	204.44	0.4634	0.4075	0.2662	0.5267	2628	94.5
38	00h06m20s	0.0902	23.998	2.1646	204.09	0.4629	0.4075	0.2659	0.5266	2633	94.6
39	00h06m30s	0.0902	23.998	2.1646	204.55	0.4635	0.4079	0.2661	0.5269	2629	94.5
40	00h06m40s	0.0902	23.998	2.1646	204.41	0.4634	0.4078	0.2661	0.5268	2630	94.5
41	00h06m50s	0.0902	23.998	2.1646	204.27	0.4633	0.4076	0.2661	0.5267	2630	94.4
42	00h07m00s	0.0902	23.998	2.1646	204.37	0.4636	0.4075	0.2663	0.5267	2625	94.4
43	00h07m10s	0.0902	23.998	2.1646	204.57	0.4637	0.408	0.2662	0.5269	2626	94.4
44	00h07m20s	0.0902	23.998	2.1646	204.28	0.4632	0.4076	0.2661	0.5267	2630	94.5
45	00h07m30s	0.0902	23.998	2.1646	204.42	0.4634	0.4082	0.2658	0.527	2634	94.6
46	00h07m40s	0.0902	23.998	2.1646	204.43	0.4634	0.4079	0.266	0.5269	2631	94.6
47	00h07m50s	0.0902	23.998	2.1646	204.35	0.4629	0.4075	0.2659	0.5266	2634	94.5
48	00h08m00s	0.0902	23.998	2.1646	204.22	0.4636	0.4077	0.2662	0.5268	2627	94.4
49	00h08m10s	0.0902	23.998	2.1646	204.56	0.4634	0.4077	0.2661	0.5268	2628	94.6
50	00h08m20s	0.0902	23.998	2.1646	204.53	0.4634	0.4077	0.2661	0.5268	2630	94.5
51	00h08m30s	0.0902	23.998	2.1646	204.46	0.4632	0.4078	0.2659	0.5268	2632	94.6
52	00h08m40s	0.0902	23.998	2.1646	204.52	0.4635	0.4079	0.2661	0.5269	2629	94.5

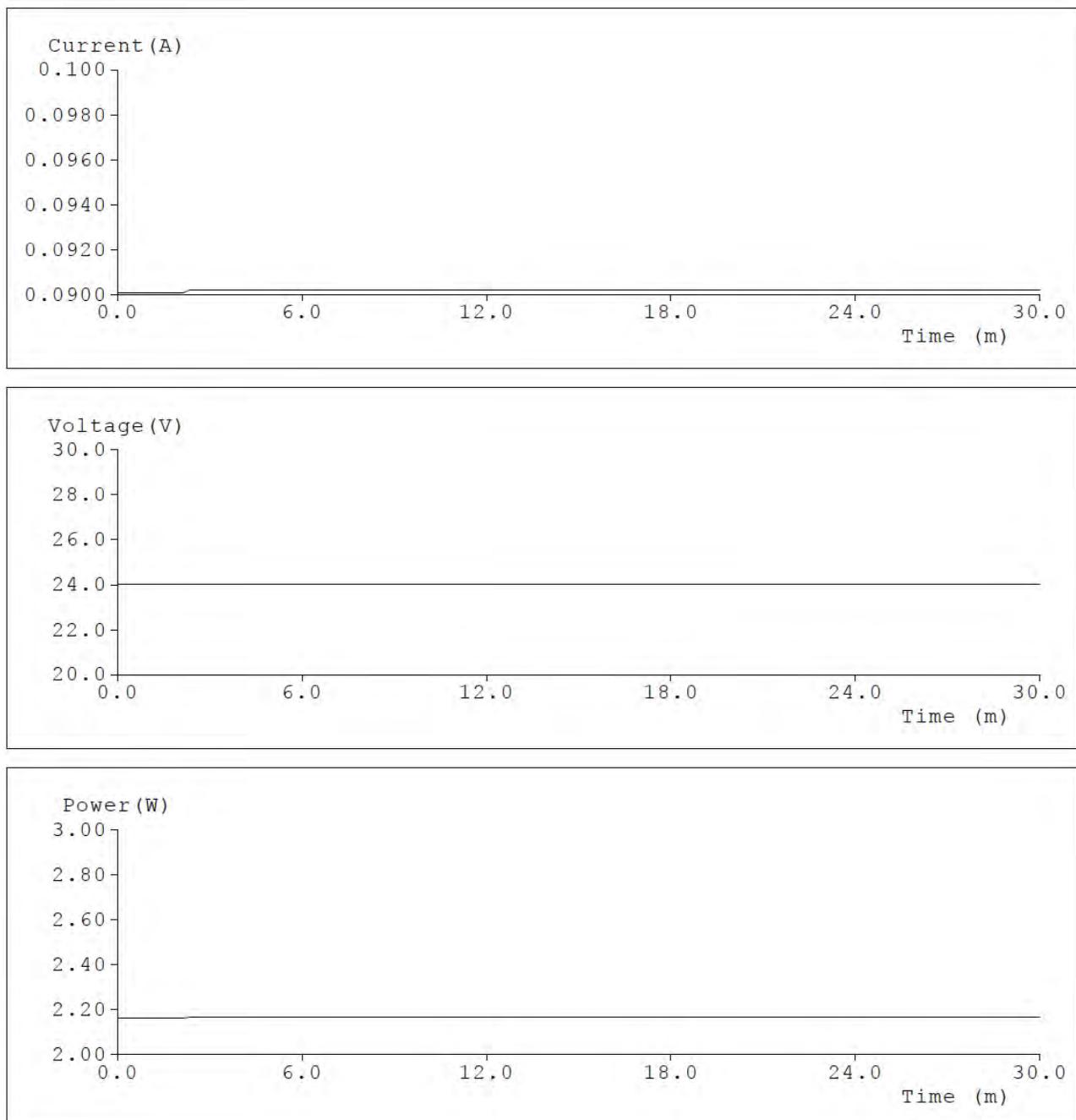
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55	00h09m10s	0.0902	23.998	2.1646	204.28	0.4635	0.4079	0.2661	0.5269	2629	94.5
56	00h09m20s	0.0902	23.998	2.1646	204.05	0.4632	0.4073	0.2661	0.5266	2629	94.6
57	00h09m30s	0.0902	23.998	2.1646	204.46	0.4635	0.4082	0.2659	0.527	2632	94.6
58	00h09m40s	0.0902	23.998	2.1646	204.47	0.4631	0.4078	0.2659	0.5268	2634	94.5
59	00h09m50s	0.0902	23.998	2.1646	204.25	0.463	0.4076	0.2659	0.5267	2634	94.5
60	00h10m00s	0.0902	23.998	2.1646	204.38	0.4636	0.4078	0.2662	0.5269	2627	94.5
61	00h10m10s	0.0902	23.998	2.1646	204.3	0.4634	0.4079	0.266	0.5268	2631	94.5
62	00h10m20s	0.0902	23.998	2.1646	203.98	0.4633	0.4074	0.2662	0.5267	2628	94.5
63	00h10m30s	0.0902	23.998	2.1646	204.36	0.4632	0.4074	0.2661	0.5266	2630	94.5
64	00h10m40s	0.0902	23.998	2.1646	204.22	0.4635	0.4081	0.266	0.5269	2630	94.5
65	00h10m50s	0.0902	23.998	2.1646	204.36	0.4633	0.4079	0.266	0.5268	2631	94.5
66	00h11m00s	0.0902	23.998	2.1646	204.49	0.4636	0.4083	0.266	0.527	2631	94.5
67	00h11m10s	0.0902	23.998	2.1646	204.84	0.4637	0.4081	0.2661	0.527	2628	94.5
68	00h11m20s	0.0902	23.998	2.1646	204.35	0.4632	0.4079	0.2659	0.5268	2634	94.5
69	00h11m30s	0.0902	23.998	2.1646	204.55	0.4638	0.4081	0.2662	0.527	2627	94.6
70	00h11m40s	0.0902	23.998	2.1646	204.29	0.4637	0.4077	0.2663	0.5268	2625	94.5
71	00h11m50s	0.0902	23.998	2.1646	204.37	0.4636	0.4081	0.2661	0.527	2629	94.6
72	00h12m00s	0.0902	23.998	2.1646	204.38	0.4635	0.4078	0.2661	0.5268	2628	94.5
73	00h12m10s	0.0902	23.998	2.1646	204.15	0.4635	0.4079	0.2661	0.5269	2628	94.5
74	00h12m20s	0.0902	23.998	2.1646	204.15	0.4635	0.4079	0.2661	0.5269	2629	94.5
75	00h12m30s	0.0902	23.998	2.1646	204.61	0.4636	0.408	0.2661	0.5269	2629	94.5
76	00h12m40s	0.0902	23.998	2.1646	204.28	0.4634	0.408	0.266	0.5269	2631	94.6
77	00h12m50s	0.0902	23.998	2.1646	204.22	0.4636	0.4077	0.2662	0.5268	2626	94.4
78	00h13m00s	0.0902	23.998	2.1646	204.4	0.4637	0.4083	0.266	0.5271	2630	94.5
79	00h13m10s	0.0902	23.998	2.1646	204.49	0.4635	0.4081	0.266	0.5269	2631	94.5
80	00h13m20s	0.0902	23.998	2.1646	204.26	0.4635	0.4076	0.2662	0.5267	2627	94.5
81	00h13m30s	0.0902	23.998	2.1646	204.12	0.4636	0.408	0.2661	0.5269	2629	94.6
82	00h13m40s	0.0902	23.998	2.1646	204.37	0.4634	0.4076	0.2662	0.5267	2628	94.4
83	00h13m50s	0.0902	23.998	2.1646	204.3	0.4636	0.4078	0.2662	0.5268	2627	94.5

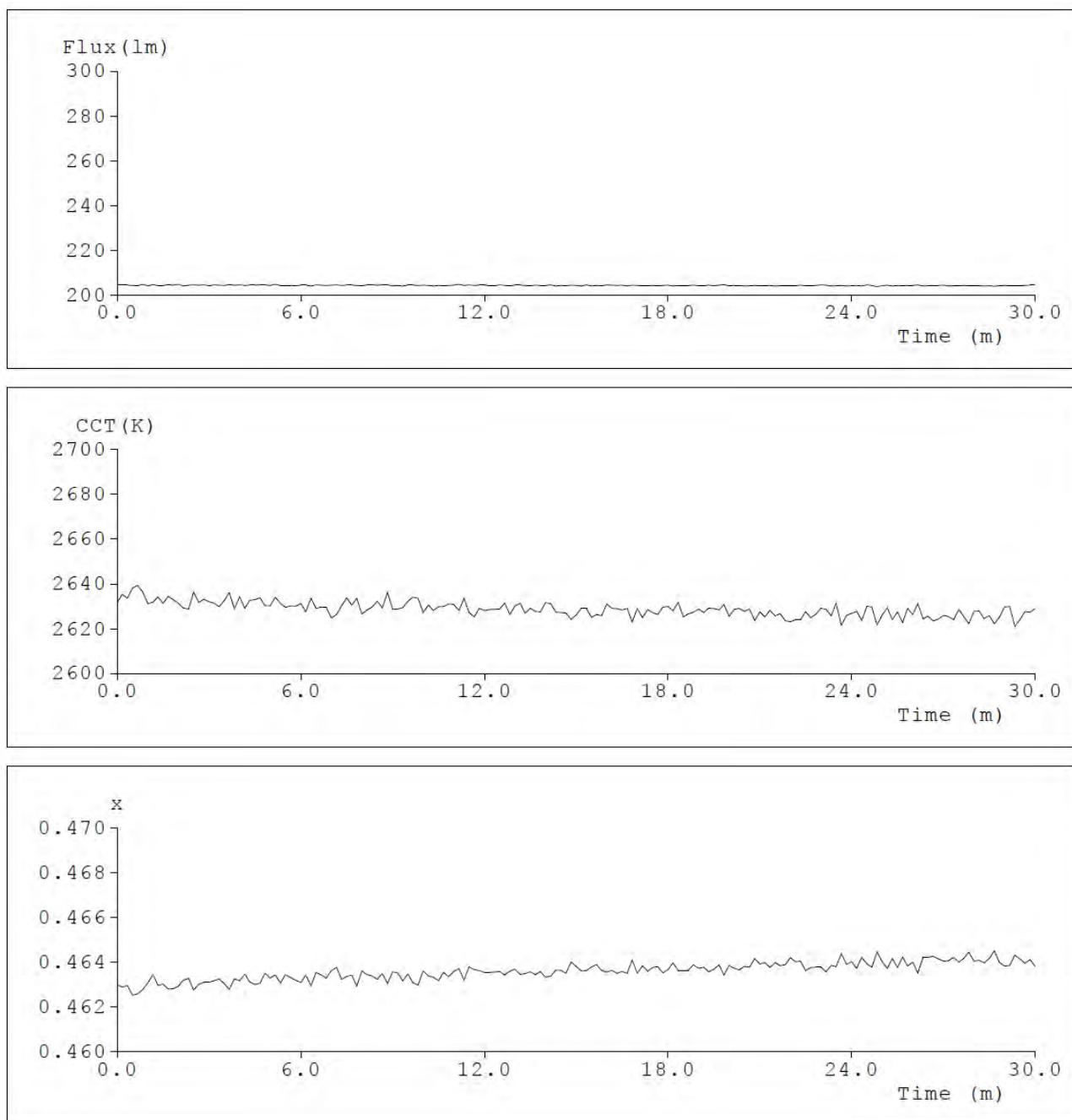
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86	00h14m20s	0.0902	23.998	2.1646	204.05	0.4636	0.4079	0.2662	0.5269	2627	94.6
87	00h14m30s	0.0902	23.998	2.1646	204.35	0.4636	0.4079	0.2662	0.5269	2627	94.4
88	00h14m40s	0.0902	23.998	2.1646	204.21	0.4635	0.4076	0.2662	0.5268	2627	94.5
89	00h14m50s	0.0902	23.998	2.1646	204.46	0.464	0.4081	0.2663	0.527	2624	94.4
90	00h15m00s	0.0902	23.998	2.1646	204.32	0.4638	0.408	0.2662	0.527	2626	94.5
91	00h15m10s	0.0902	23.998	2.1646	204.1	0.4636	0.4081	0.2661	0.5269	2629	94.6
92	00h15m20s	0.0902	23.998	2.1646	204.55	0.4636	0.4081	0.2661	0.5269	2629	94.5
93	00h15m30s	0.0902	23.998	2.1646	204.08	0.4638	0.4079	0.2663	0.5269	2625	94.5
94	00h15m40s	0.0902	23.998	2.1646	204.34	0.4639	0.4082	0.2662	0.527	2626	94.5
95	00h15m50s	0.0902	23.998	2.1646	204.21	0.4636	0.4077	0.2663	0.5268	2626	94.5
96	00h16m00s	0.0902	23.998	2.1646	204.57	0.4636	0.4082	0.266	0.527	2631	94.6
97	00h16m10s	0.0902	23.998	2.1646	204.47	0.4636	0.4081	0.2661	0.527	2629	94.5
98	00h16m20s	0.0902	23.998	2.1646	204.35	0.4635	0.4078	0.2661	0.5268	2629	94.4
99	00h16m30s	0.0902	23.998	2.1646	204.48	0.4636	0.4079	0.2661	0.5269	2628	94.5
100	00h16m40s	0.0902	23.998	2.1646	204.04	0.4635	0.4079	0.2661	0.5268	2629	94.5
101	00h16m50s	0.0902	23.998	2.1646	204.42	0.4641	0.4081	0.2664	0.527	2623	94.3
102	00h17m00s	0.0902	23.998	2.1646	204.35	0.4635	0.4079	0.2661	0.5268	2629	94.5
103	00h17m10s	0.0902	23.998	2.1646	204.23	0.4638	0.4079	0.2663	0.5269	2625	94.5
104	00h17m20s	0.0902	23.998	2.1646	204.19	0.4636	0.408	0.2661	0.5269	2628	94.4
105	00h17m30s	0.0902	23.998	2.1646	204.32	0.4638	0.4081	0.2662	0.527	2627	94.5
106	00h17m40s	0.0902	23.998	2.1646	204.2	0.4638	0.408	0.2662	0.527	2626	94.5
107	00h17m50s	0.0902	23.998	2.1646	204.25	0.4635	0.408	0.266	0.5269	2630	94.5
108	00h18m00s	0.0902	23.998	2.1646	204.42	0.4637	0.4083	0.266	0.527	2630	94.5
109	00h18m10s	0.0902	23.998	2.1646	204.07	0.464	0.4086	0.2661	0.5272	2628	94.6
110	00h18m20s	0.0902	23.998	2.1646	204.29	0.4636	0.4085	0.2659	0.5271	2632	94.6
111	00h18m30s	0.0902	23.998	2.1646	204.24	0.4636	0.4076	0.2663	0.5268	2625	94.5
112	00h18m40s	0.0902	23.998	2.1646	204.24	0.4636	0.4078	0.2662	0.5268	2627	94.5
113	00h18m50s	0.0902	23.998	2.1646	204.43	0.4639	0.4083	0.2661	0.5271	2627	94.5
114	00h19m00s	0.0902	23.998	2.1646	204.22	0.4637	0.4082	0.2661	0.527	2629	94.6

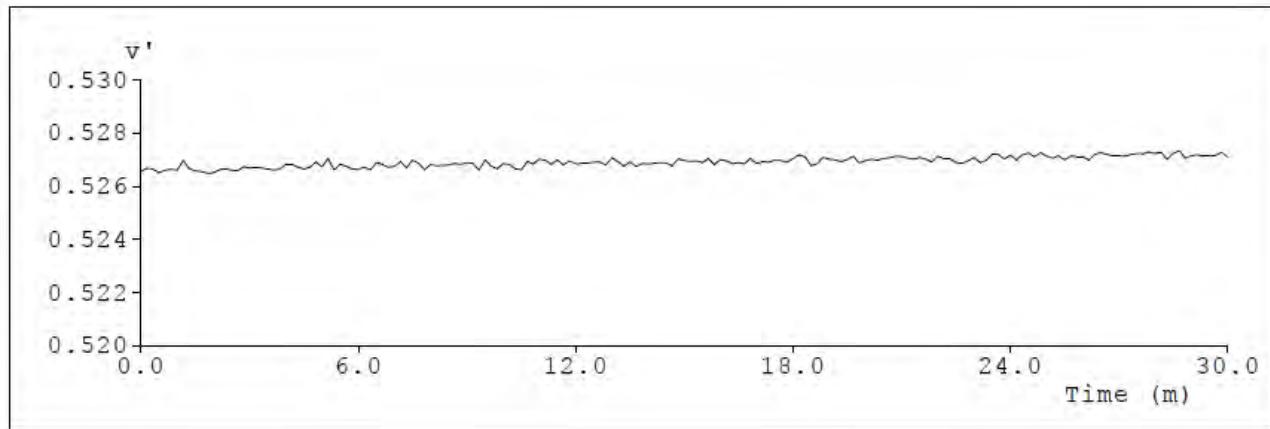
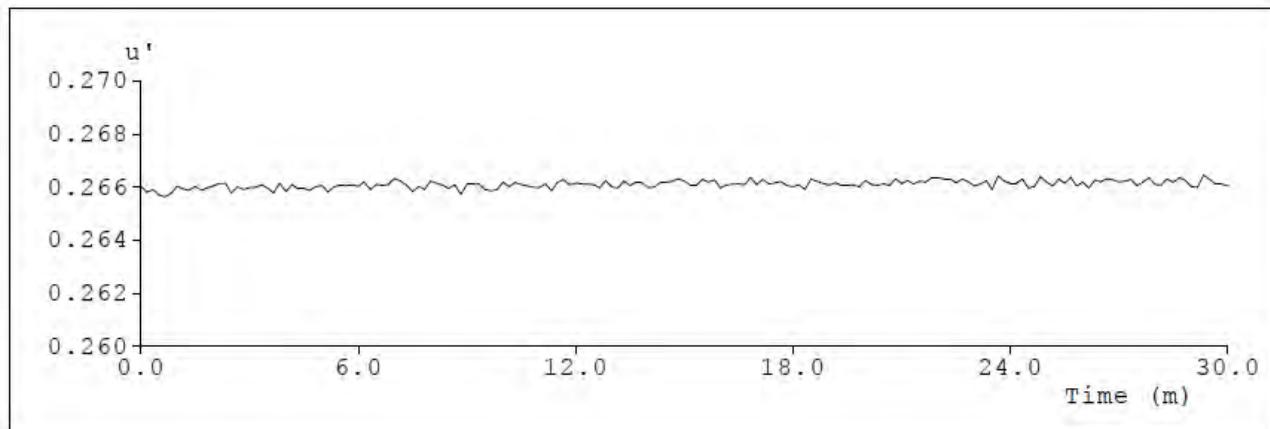
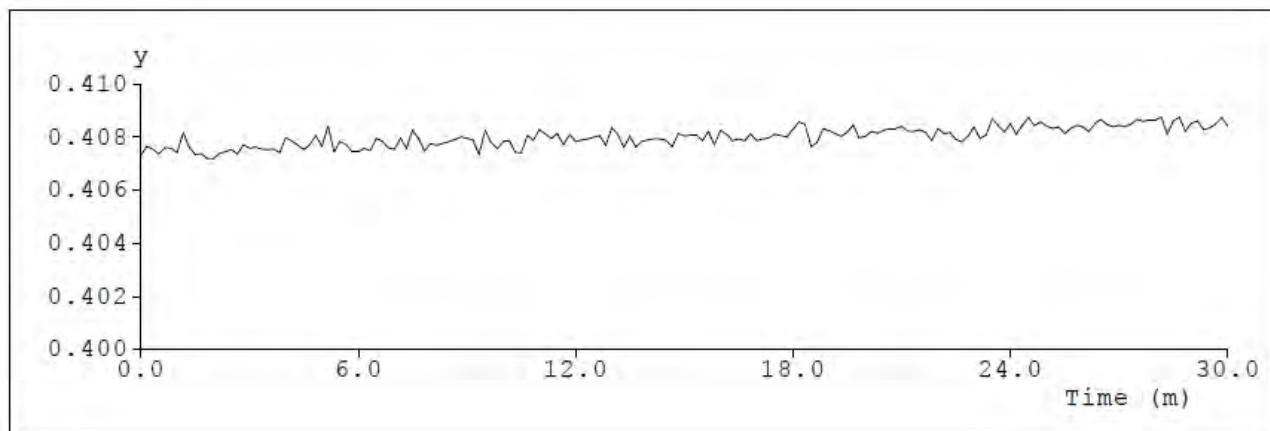
115	00h19m10s	0.0902	23.998	2.1646	204.17	0.4638	0.4081	0.2662	0.527	2627	94.5
116	00h19m20s	0.0902	23.998	2.1646	204.44	0.4636	0.408	0.2661	0.5269	2629	94.4
117	00h19m30s	0.0902	23.998	2.1646	204.11	0.4637	0.4082	0.2661	0.527	2629	94.5
118	00h19m40s	0.0902	23.998	2.1646	204.44	0.4639	0.4084	0.2661	0.5271	2628	94.5
119	00h19m50s	0.0902	23.998	2.1646	204.65	0.4634	0.408	0.266	0.5269	2631	94.5
120	00h20m00s	0.0902	23.998	2.1646	204.14	0.4638	0.408	0.2662	0.527	2626	94.4
121	00h20m10s	0.0902	23.998	2.1646	204.27	0.4637	0.4082	0.2661	0.527	2629	94.6
122	00h20m20s	0.0902	23.998	2.1646	204.31	0.4636	0.4081	0.2661	0.527	2629	94.4
123	00h20m30s	0.0902	23.998	2.1646	204.09	0.4638	0.4082	0.2661	0.527	2628	94.5
124	00h20m40s	0.0902	23.998	2.1646	204.21	0.4638	0.4083	0.2661	0.5271	2629	94.5
125	00h20m50s	0.0902	23.998	2.1646	204.27	0.4642	0.4083	0.2663	0.5271	2624	94.5
126	00h21m00s	0.0902	23.998	2.1646	204.14	0.4639	0.4084	0.2661	0.5271	2627	94.5
127	00h21m10s	0.0902	23.998	2.1646	204.21	0.464	0.4082	0.2662	0.5271	2625	94.4
128	00h21m20s	0.0902	23.998	2.1646	204.35	0.4638	0.4082	0.2661	0.527	2628	94.6
129	00h21m30s	0.0902	23.998	2.1646	203.99	0.464	0.4083	0.2662	0.5271	2626	94.6
130	00h21m40s	0.0902	23.998	2.1646	204.22	0.4638	0.4082	0.2662	0.527	2627	94.5
131	00h21m50s	0.0902	23.998	2.1646	204.15	0.4639	0.4079	0.2664	0.5269	2624	94.5
132	00h22m00s	0.0902	23.998	2.1646	204.18	0.4642	0.4083	0.2663	0.5271	2623	94.6
133	00h22m10s	0.0902	23.998	2.1646	204.18	0.464	0.4081	0.2663	0.527	2624	94.5
134	00h22m20s	0.0902	23.998	2.1646	204.42	0.464	0.4082	0.2663	0.527	2624	94.4
135	00h22m30s	0.0902	23.998	2.1646	204.15	0.4636	0.4079	0.2662	0.5269	2628	94.5
136	00h22m40s	0.0902	23.998	2.1646	204.19	0.4638	0.4078	0.2663	0.5269	2625	94.5
137	00h22m50s	0.0902	23.998	2.1646	204.3	0.4638	0.408	0.2662	0.5269	2626	94.5
138	00h23m00s	0.0902	23.998	2.1646	204.52	0.4638	0.4084	0.266	0.5271	2629	94.4
139	00h23m10s	0.0902	23.998	2.1646	204.39	0.4636	0.4079	0.2661	0.5269	2629	94.4
140	00h23m20s	0.0902	23.998	2.1646	204.06	0.4638	0.4081	0.2662	0.527	2626	94.5
141	00h23m30s	0.0902	23.998	2.1646	204.2	0.4638	0.4087	0.2659	0.5272	2631	94.7
142	00h23m40s	0.0902	23.998	2.1646	204.29	0.4644	0.4084	0.2664	0.5272	2621	94.4
143	00h23m50s	0.0902	23.998	2.1646	204.1	0.4639	0.4082	0.2662	0.527	2626	94.5
144	00h24m00s	0.0902	23.998	2.1646	204.21	0.464	0.4085	0.2661	0.5272	2627	94.5
145	00h24m10s	0.0902	23.998	2.1646	204.24	0.4637	0.4081	0.2661	0.527	2628	94.4

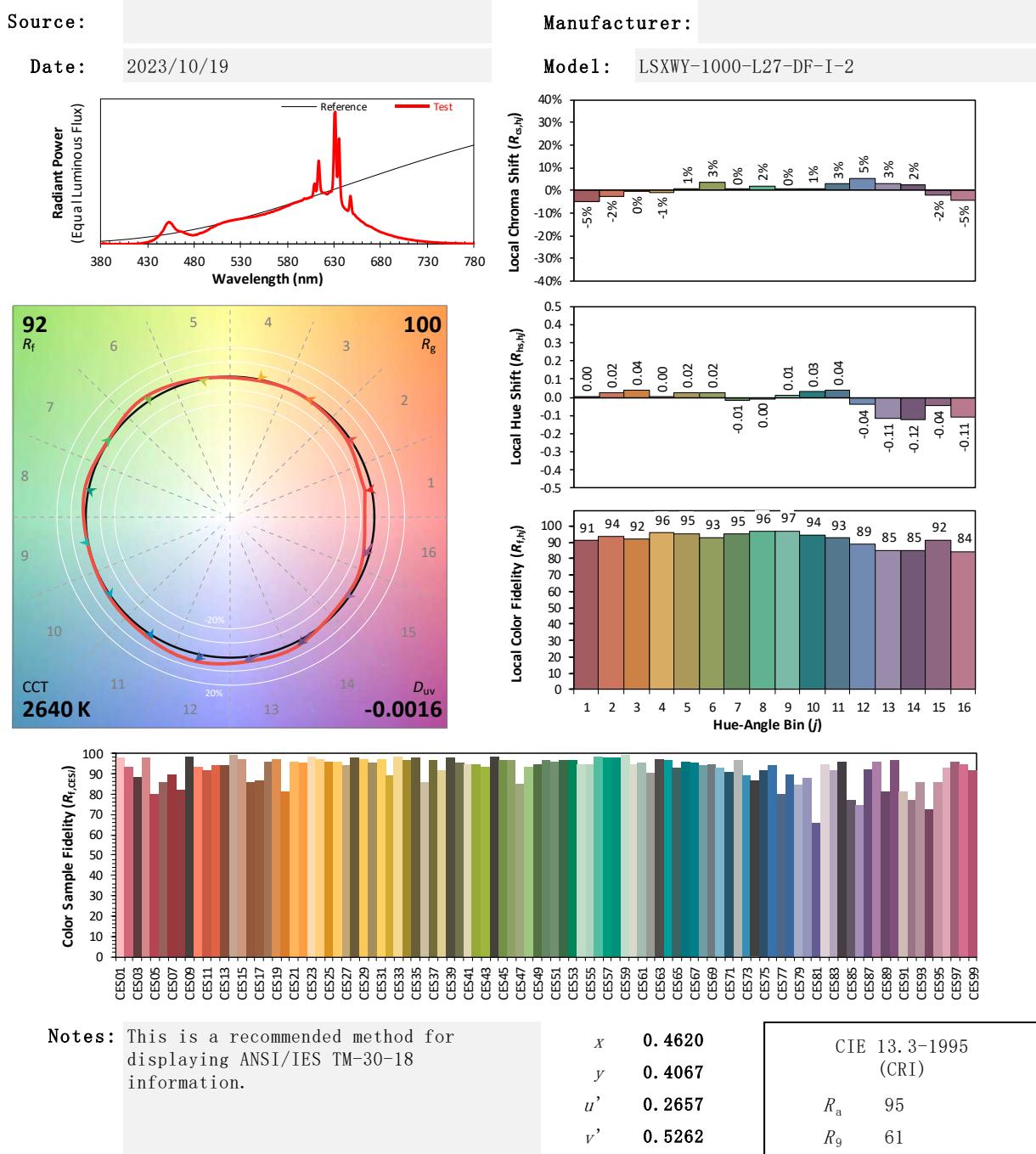
146	00h24m20s	0.0902	23.998	2.1646	203.98	0.4642	0.4084	0.2663	0.5272	2624	94.5
147	00h24m30s	0.0902	23.998	2.1646	204.61	0.4639	0.4087	0.266	0.5272	2630	94.6
148	00h24m40s	0.0902	23.998	2.1646	204.24	0.4638	0.4084	0.266	0.5271	2630	94.6
149	00h24m50s	0.0902	23.998	2.1646	203.81	0.4644	0.4086	0.2664	0.5273	2622	94.5
150	00h25m00s	0.0902	23.998	2.1646	204.17	0.464	0.4084	0.2662	0.5271	2626	94.5
151	00h25m10s	0.0902	23.998	2.1646	204.37	0.4637	0.4083	0.266	0.5271	2629	94.5
152	00h25m20s	0.0902	23.998	2.1646	204.07	0.4641	0.4084	0.2663	0.5271	2624	94.5
153	00h25m30s	0.0902	23.998	2.1646	204.27	0.4638	0.4081	0.2661	0.527	2627	94.4
154	00h25m40s	0.0902	23.998	2.1646	204.11	0.4642	0.4083	0.2664	0.5271	2623	94.5
155	00h25m50s	0.0902	23.998	2.1646	204.35	0.4638	0.4084	0.266	0.5271	2629	94.5
156	00h26m00s	0.0902	23.998	2.1646	204.33	0.464	0.4084	0.2662	0.5271	2626	94.5
157	00h26m10s	0.0902	23.998	2.1646	204.6	0.4635	0.4082	0.266	0.527	2631	94.5
158	00h26m20s	0.0902	23.998	2.1646	204.05	0.4642	0.4085	0.2663	0.5272	2624	94.5
159	00h26m30s	0.0902	23.998	2.1646	204.13	0.4642	0.4087	0.2662	0.5273	2626	94.5
160	00h26m40s	0.0902	23.998	2.1646	204.28	0.4643	0.4085	0.2663	0.5272	2623	94.4
161	00h26m50s	0.0902	23.998	2.1646	204.25	0.4641	0.4084	0.2663	0.5271	2624	94.5
162	00h27m00s	0.0902	23.998	2.1646	204.38	0.464	0.4084	0.2662	0.5271	2626	94.6
163	00h27m10s	0.0902	23.998	2.1646	204.09	0.464	0.4084	0.2662	0.5271	2625	94.5
164	00h27m20s	0.0902	23.998	2.1646	204.12	0.4642	0.4085	0.2663	0.5272	2624	94.5
165	00h27m30s	0.0902	23.998	2.1646	204.2	0.464	0.4087	0.266	0.5272	2628	94.5
166	00h27m40s	0.0902	23.998	2.1646	204.28	0.4642	0.4086	0.2662	0.5272	2626	94.5
167	00h27m50s	0.0902	23.998	2.1646	204.12	0.4644	0.4086	0.2664	0.5273	2622	94.4
168	00h28m00s	0.0902	23.998	2.1646	204.14	0.464	0.4086	0.2661	0.5272	2628	94.6
169	00h28m10s	0.0902	23.998	2.1646	204.2	0.4641	0.4087	0.2661	0.5273	2628	94.5
170	00h28m20s	0.0902	23.998	2.1646	204.01	0.464	0.4081	0.2663	0.527	2624	94.5
171	00h28m30s	0.0902	23.998	2.1646	204.16	0.4642	0.4086	0.2662	0.5272	2626	94.5
172	00h28m40s	0.0902	23.998	2.1646	203.97	0.4645	0.4087	0.2664	0.5273	2622	94.4
173	00h28m50s	0.0902	23.998	2.1646	204.15	0.464	0.4082	0.2663	0.5271	2625	94.4
174	00h29m00s	0.0902	23.998	2.1646	204.31	0.4638	0.4085	0.266	0.5271	2630	94.5
175	00h29m10s	0.0902	23.998	2.1646	204.2	0.4638	0.4086	0.266	0.5272	2630	94.5
176	00h29m20s	0.0902	23.998	2.1646	204.18	0.4643	0.4083	0.2664	0.5271	2621	94.4

177	00h29m30s	0.0902	23.998	2.1646	204.13	0.4641	0.4083	0.2663	0.5271	2624	94.5
178	00h29m40s	0.0902	23.998	2.1646	204.26	0.464	0.4085	0.2661	0.5272	2628	94.4
179	00h29m50s	0.0902	23.998	2.1646	204.44	0.4641	0.4087	0.2661	0.5273	2627	94.5
180	00h30m00s	0.0902	23.998	2.1646	204.47	0.4638	0.4084	0.266	0.5271	2629	94.5

Test curves

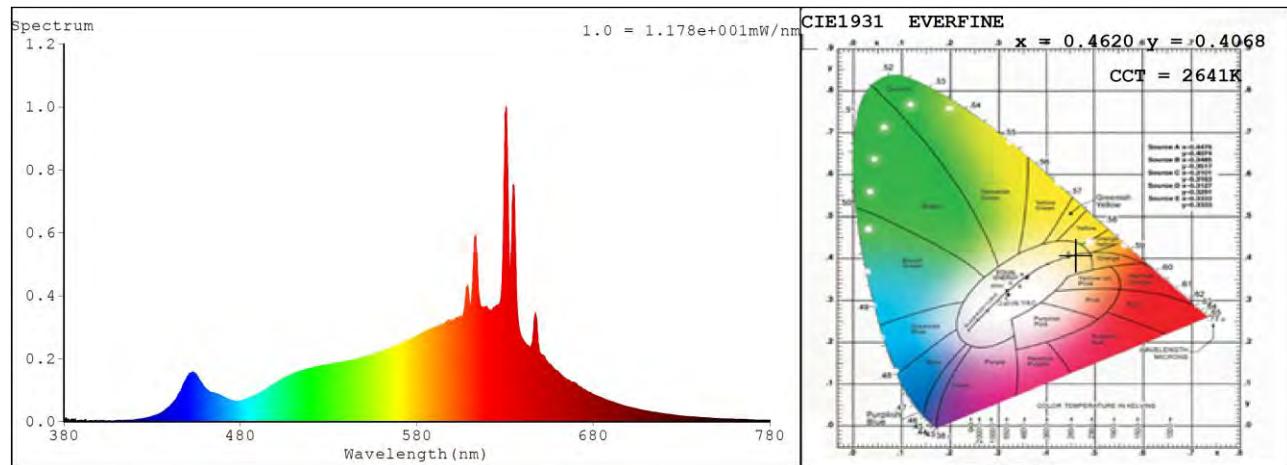




5.2 ANSI/IES TM-30-18 Color Rendition Report*ANSI/IES TM-30-18 Color Rendition Report**

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								
380	0	414	0.0026	448	0.1191	482	0.0696	516	0.1623
381	0	415	0.0024	449	0.1309	483	0.0687	517	0.1641
382	0.0078	416	0.0039	450	0.142	484	0.0722	518	0.1668
383	0.0007	417	0.003	451	0.151	485	0.0756	519	0.1658
384	0.0052	418	0.0032	452	0.1536	486	0.0788	520	0.1687
385	0.0058	419	0.0038	453	0.158	487	0.0791	521	0.1687
386	0.0003	420	0.0056	454	0.1531	488	0.0817	522	0.1724
387	0	421	0.0051	455	0.1459	489	0.083	523	0.1713
388	0.0014	422	0.006	456	0.1425	490	0.0862	524	0.174
389	0.0046	423	0.0071	457	0.1297	491	0.0903	525	0.1743
390	0.0014	424	0.0078	458	0.1226	492	0.092	526	0.1764
391	0.0025	425	0.009	459	0.1133	493	0.096	527	0.1762
392	0	426	0.0101	460	0.1062	494	0.0995	528	0.1775
393	0.0013	427	0.0109	461	0.1005	495	0.103	529	0.1789
394	0	428	0.0134	462	0.0974	496	0.1077	530	0.1808
395	0.0034	429	0.0135	463	0.0925	497	0.1131	531	0.1806
396	0.0013	430	0.0156	464	0.0894	498	0.1172	532	0.1825
397	0.002	431	0.0181	465	0.0907	499	0.1186	533	0.1832
398	0.0021	432	0.0198	466	0.0886	500	0.1219	534	0.1853
399	0.001	433	0.0234	467	0.0877	501	0.1254	535	0.1859
400	0.0024	434	0.0229	468	0.0861	502	0.1281	536	0.1873
401	0.0015	435	0.0276	469	0.0811	503	0.1317	537	0.1891
402	0.003	436	0.0308	470	0.0772	504	0.1358	538	0.1883
403	0.0004	437	0.0338	471	0.076	505	0.1406	539	0.1901
404	0.0006	438	0.0394	472	0.0741	506	0.1407	540	0.1902
405	0.0016	439	0.045	473	0.071	507	0.1426	541	0.1924
406	0.0025	440	0.0468	474	0.0691	508	0.1463	542	0.1919
407	0.002	441	0.0566	475	0.0668	509	0.1487	543	0.1952
408	0.0022	442	0.0605	476	0.0665	510	0.1518	544	0.1942
409	0.0015	443	0.068	477	0.0647	511	0.1543	545	0.1964
410	0.0008	444	0.075	478	0.0642	512	0.155	546	0.1963
411	0.0015	445	0.0864	479	0.0635	513	0.1585	547	0.1994
412	0.0033	446	0.0923	480	0.0659	514	0.1581	548	0.1996
413	0.0032	447	0.1039	481	0.0659	515	0.1614	549	0.2024

nm	mW								
550	0.2051	599	0.3208	648	0.3065	697	0.0511	746	0.0112
551	0.2062	600	0.3194	649	0.2396	698	0.0485	747	0.0105
552	0.2067	601	0.3243	650	0.2155	699	0.0462	748	0.0102
553	0.2094	602	0.3262	651	0.2115	700	0.0463	749	0.0098
554	0.2099	603	0.3262	652	0.2069	701	0.0457	750	0.0088
555	0.2112	604	0.3317	653	0.1959	702	0.0431	751	0.0095
556	0.2133	605	0.332	654	0.1898	703	0.0423	752	0.0088
557	0.2165	606	0.3345	655	0.1832	704	0.0409	753	0.0085
558	0.2187	607	0.358	656	0.1796	705	0.0395	754	0.0083
559	0.2211	608	0.4136	657	0.1726	706	0.0386	755	0.0079
560	0.2216	609	0.4268	658	0.1662	707	0.0372	756	0.0078
561	0.2242	610	0.3744	659	0.1622	708	0.0364	757	0.0076
562	0.2279	611	0.3816	660	0.1574	709	0.0345	758	0.0076
563	0.2293	612	0.4819	661	0.1536	710	0.0335	759	0.0077
564	0.2285	613	0.5885	662	0.1469	711	0.0338	760	0.007
565	0.2324	614	0.5207	663	0.142	712	0.0322	761	0.007
566	0.2369	615	0.41	664	0.1369	713	0.031	762	0.0067
567	0.2392	616	0.3735	665	0.1331	714	0.0299	763	0.0066
568	0.239	617	0.3628	666	0.1318	715	0.029	764	0.0065
569	0.2421	618	0.3621	667	0.1281	716	0.0283	765	0.0064
570	0.2439	619	0.3636	668	0.1255	717	0.0266	766	0.0061
571	0.2467	620	0.3616	669	0.1231	718	0.0257	767	0.0057
572	0.2501	621	0.3546	670	0.1217	719	0.0254	768	0.0055
573	0.2516	622	0.3533	671	0.1152	720	0.0243	769	0.0052
574	0.2565	623	0.3553	672	0.1122	721	0.0234	770	0.0053
575	0.2584	624	0.3628	673	0.1084	722	0.0229	771	0.0057
576	0.2601	625	0.3673	674	0.1034	723	0.0227	772	0.0045
577	0.264	626	0.3699	675	0.1012	724	0.022	773	0.0046
578	0.2667	627	0.3739	676	0.0981	725	0.0211	774	0.005
579	0.2683	628	0.4144	677	0.0934	726	0.02	775	0.0045
580	0.2703	629	0.5844	678	0.0914	727	0.0197	776	0.0043
581	0.2734	630	0.9182	679	0.0888	728	0.018	777	0.0047
582	0.2764	631	0.9311	680	0.0843	729	0.0184	778	0.0044
583	0.2804	632	0.5973	681	0.0836	730	0.0177	779	0.0042
584	0.2838	633	0.4739	682	0.0814	731	0.0168	780	0.0042
585	0.2873	634	0.6279	683	0.0795	732	0.0168		
586	0.2881	635	0.7423	684	0.0761	733	0.0161		
587	0.2924	636	0.5069	685	0.0741	734	0.0159		
588	0.2942	637	0.3416	686	0.0719	735	0.015		
589	0.2951	638	0.2948	687	0.07	736	0.0145		
590	0.2973	639	0.2704	688	0.0671	737	0.0142		
591	0.3004	640	0.2615	689	0.0658	738	0.0133		
592	0.3014	641	0.2527	690	0.0638	739	0.0127		
593	0.3049	642	0.2462	691	0.0633	740	0.0132		
594	0.3069	643	0.2431	692	0.0602	741	0.0127		
595	0.3077	644	0.2357	693	0.058	742	0.0121		
596	0.3117	645	0.2406	694	0.0556	743	0.0114		
597	0.3186	646	0.2775	695	0.0543	744	0.0112		
598	0.3237	647	0.3398	696	0.052	745	0.0108		

6. Goniophotometer Test results for LSXWY-1000-L27-DF-I-2

6.1 Test Data

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

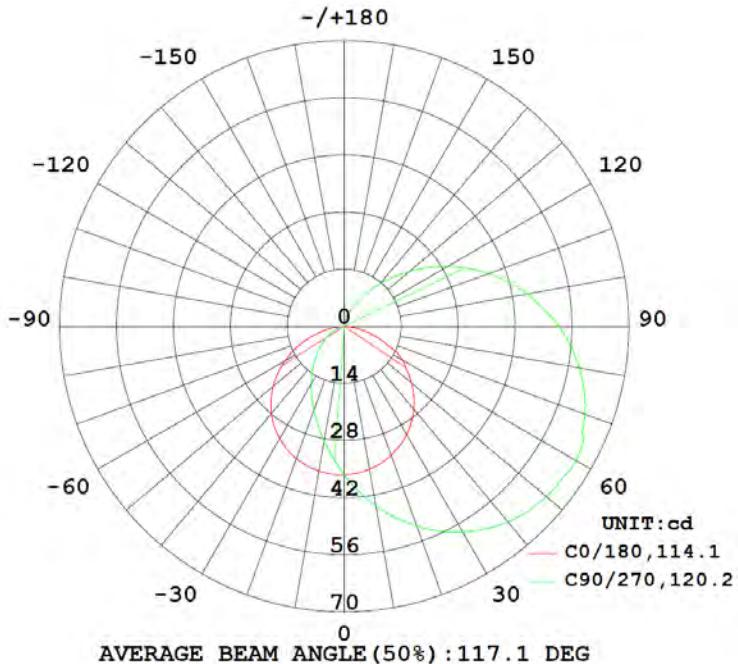
Electrical Measurement

Input Voltage (V)	Frequency (Hz)	Input Current(A)	Power Factor	Power(W)
24.002	--	0.09468	1.0000	2.2725

Optical Measurement

Luminous Flux (lm)	Efficacy(lm/W)	I_{max} (cd)	η up (%)	η down (%)
219.061	96.40	65.79	23.1	76.9

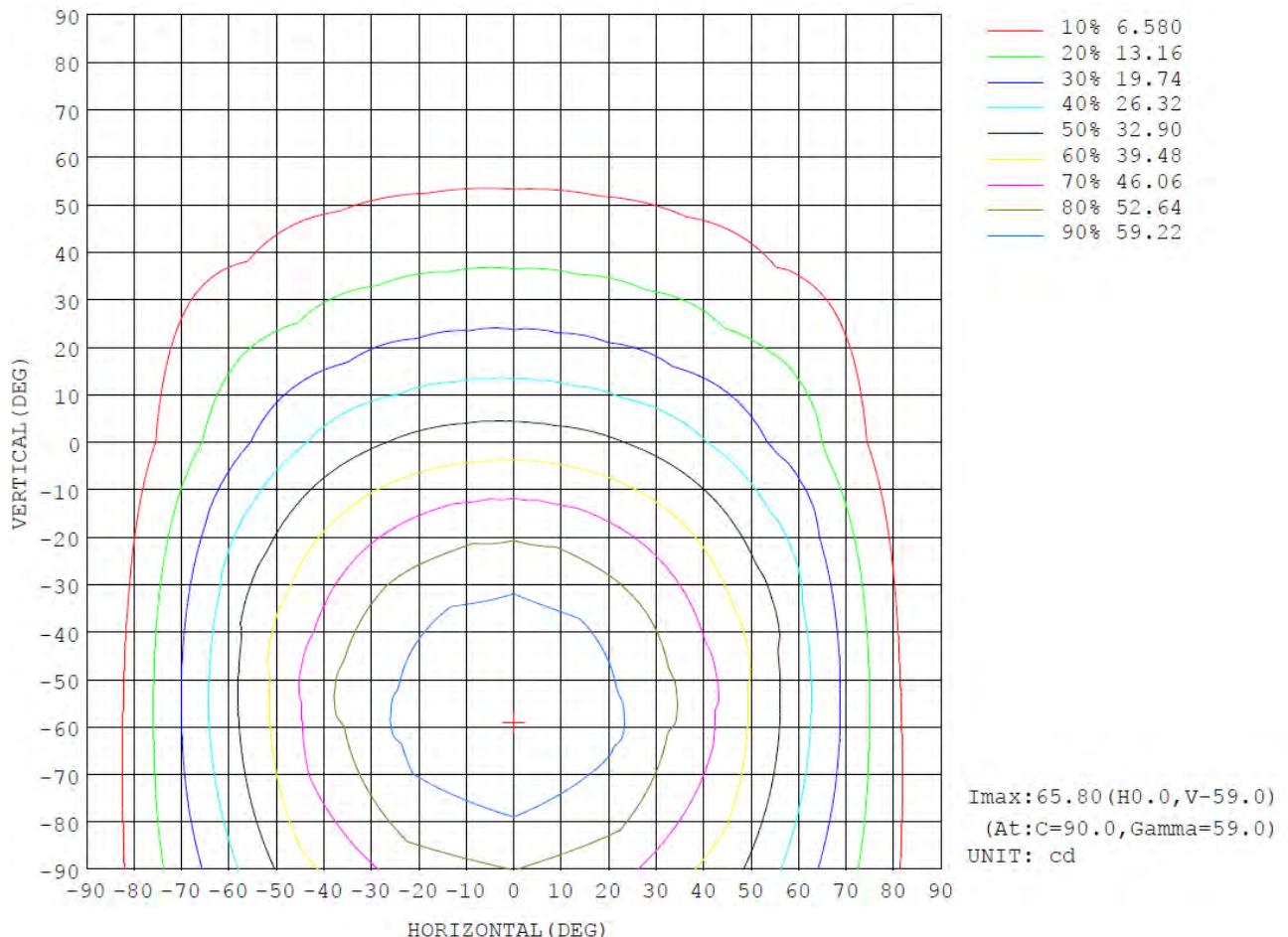
6.2 Luminous Intensity Distribution



6.3 Zonal Flux Diagram

γ	c0	c45	c90	c135	c180	c225	c270	c315	γ	Φ zone	Φ total	*lum, lamp
10	35.59	41.74	44.61	42.12	36.04	30.64	28.63	30.38	0- 10	3.465	3.465	1.58, 1.58
20	33.66	46.21	52.13	47.01	34.50	24.87	21.91	24.46	10- 20	10.18	13.64	6.23, 6.23
30	30.66	49.40	58.25	50.70	31.80	19.44	16.31	18.97	20- 30	16.22	29.86	13.6, 13.6
40	26.60	51.13	62.55	52.84	27.93	14.35	11.57	13.89	30- 40	21.07	50.94	23.3, 23.3
50	21.60	51.23	64.91	53.30	22.86	9.752	7.678	9.340	40- 50	24.32	75.26	34.4, 34.4
60	16.48	50.39	65.76	52.65	16.87	5.868	4.537	5.531	50- 60	25.77	101.0	46.1, 46.1
70	9.393	46.40	62.94	48.71	10.21	2.842	2.050	2.515	60- 70	25.26	126.3	57.6, 57.6
80	3.106	41.58	58.70	43.74	3.640	0.8607	0.7153	0.5585	70- 80	22.69	149.0	68, 68
90	0.1787	35.65	52.75	37.57	0.2353	0.1601	0.2069	0.1483	80- 90	19.44	168.4	76.9, 76.9
100	0.2217	29.36	45.66	30.96	0.2849	0.1250	0.1688	0.1421	90-100	16.21	184.6	84.3, 84.3
110	0.2962	22.97	37.82	24.30	0.2236	0.0808	0.1179	0.0976	100-110	12.80	197.4	90.1, 90.1
120	0.1750	16.30	29.41	17.62	0.2136	0.0962	0.1330	0.1159	110-120	9.259	206.7	94.3, 94.3
130	0.1529	11.00	20.99	12.07	0.1988	0.1293	0.1422	0.1381	120-130	6.078	212.8	97.1, 97.1
140	0.1277	6.570	13.74	7.533	0.1580	0.1207	0.1226	0.1237	130-140	3.567	216.3	98.8, 98.8
150	0.0999	4.071	7.569	4.477	0.1167	0.1146	0.1139	0.1128	140-150	1.795	218.1	99.6, 99.6
160	0.0868	2.068	3.828	1.952	0.0911	0.0921	0.1052	0.1002	150-160	0.7289	218.8	99.9, 99.9
170	0.0916	0.5098	1.147	0.4561	0.0916	0.0985	0.0835	0.0928	160-170	0.1950	219.0	100, 100
180	0.0955	0.1002	0.0555	0.0823	0.0951	0.0968	0.0956	0.0793	170-180	0.0173	219.1	100, 100
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

6.4 Isocandela Diagram



6.5 Luminous Distribution Intensity Data

Table--1

γ (DEG)	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	UNIT: cd		
0	36.4	36.4	36.4	36.4	36.4	36.4	36.4	36.4	36.4	36.4	36.4	36.4	36.4	36.4	36.4	36.4	36.4			
5	36.1	37.7	39.1	40.1	40.5	40.2	39.3	37.9	36.4	34.8	33.5	32.7	32.4	32.6	33.4	34.6				
10	35.6	38.8	41.7	43.8	44.6	44.0	42.1	39.3	36.0	33.0	30.6	29.2	28.6	29.0	30.4	32.6				
15	34.8	39.6	44.1	47.3	48.5	47.6	44.7	40.3	35.4	31.0	27.8	25.8	25.1	25.6	27.4	30.5				
20	33.7	40.2	46.2	50.4	52.1	50.9	47.0	41.1	34.5	28.8	24.9	22.7	21.9	22.5	24.5	28.2				
25	32.3	40.4	48.0	53.3	55.4	53.9	49.0	41.6	33.3	26.5	22.1	19.8	19.0	19.6	21.7	25.8				
30	30.7	40.4	49.4	55.7	58.2	56.5	50.7	41.7	31.8	24.0	19.4	17.1	16.3	16.9	19.0	23.2				
35	28.8	40.0	50.5	57.7	60.6	58.6	52.0	41.6	30.0	21.4	16.9	14.6	13.8	14.3	16.4	20.6				
40	26.6	39.3	51.1	59.3	62.5	60.3	52.8	41.1	27.9	18.8	14.4	12.2	11.6	12.0	13.9	18.0				
45	24.2	38.3	51.4	60.4	64.0	61.6	53.3	40.2	25.5	16.2	12.0	10.1	9.52	9.89	11.5	15.4				
50	21.6	37.0	51.2	61.0	64.9	62.3	53.3	39.0	22.9	13.5	9.75	8.17	7.68	7.97	9.34	12.8				
55	18.8	35.3	50.7	61.1	65.3	62.5	52.9	37.4	20.0	10.9	7.70	6.43	6.02	6.25	7.33	10.3				
60	16.5	34.1	50.4	61.4	65.8	62.8	52.7	36.2	16.9	8.40	5.87	4.87	4.54	4.69	5.53	7.89				
65	13.1	31.9	49.0	60.5	65.0	62.0	51.3	34.0	13.6	6.09	4.24	3.49	3.20	3.29	3.92	5.67				
70	9.39	28.6	46.4	58.3	62.9	59.8	48.7	30.6	10.2	4.07	2.84	2.29	2.05	2.05	2.51	3.73				
75	6.17	25.8	44.2	56.3	61.1	57.8	46.4	27.7	6.86	2.40	1.68	1.34	1.20	1.11	1.32	2.11				
80	3.11	22.8	41.6	53.9	58.7	55.3	43.7	24.5	3.64	1.15	0.86	0.76	0.72	0.60	0.56	0.88				
85	0.83	19.7	38.7	51.1	55.9	52.5	40.7	21.3	1.19	0.39	0.40	0.40	0.44	0.34	0.26	0.22				
90	0.18	16.8	35.6	48.0	52.7	49.3	37.6	18.2	0.24	0.09	0.16	0.20	0.21	0.19	0.15	0.08				
95	0.20	14.2	32.5	44.7	49.3	45.9	34.3	15.4	0.21	0.08	0.13	0.19	0.27	0.20	0.16	0.11				
100	0.22	11.8	29.4	41.2	45.7	42.3	31.0	12.9	0.28	0.08	0.13	0.15	0.17	0.16	0.14	0.10				
105	0.24	9.48	26.2	37.5	41.8	38.5	27.6	10.7	0.26	0.07	0.11	0.14	0.18	0.16	0.13	0.10				
110	0.30	7.55	23.0	33.8	37.8	34.7	24.3	8.79	0.22	0.06	0.08	0.11	0.12	0.12	0.10	0.10				
115	0.18	6.11	19.5	29.8	33.6	30.6	20.8	7.19	0.22	0.08	0.08	0.11	0.13	0.12	0.10	0.11				
120	0.18	4.84	16.3	25.8	29.4	26.6	17.6	5.87	0.21	0.11	0.10	0.12	0.13	0.12	0.12	0.13				
125	0.16	3.86	13.4	21.8	25.2	22.6	14.7	4.83	0.22	0.15	0.13	0.14	0.16	0.15	0.15	0.17				
130	0.15	3.37	11.0	18.0	21.0	18.7	12.1	4.07	0.20	0.15	0.13	0.14	0.14	0.14	0.14	0.16				
135	0.14	2.84	8.85	14.7	17.1	15.3	9.79	3.18	0.18	0.14	0.13	0.13	0.13	0.13	0.13	0.15				
140	0.13	2.34	6.57	11.8	13.7	12.3	7.53	2.71	0.16	0.14	0.12	0.12	0.12	0.12	0.12	0.14				
145	0.11	1.89	5.24	8.84	10.7	9.35	5.85	2.10	0.14	0.13	0.12	0.12	0.12	0.12	0.12	0.13				
150	0.10	1.44	4.07	6.38	7.57	6.76	4.48	1.59	0.12	0.12	0.11	0.11	0.11	0.11	0.11	0.12				
155	0.09	1.02	3.01	4.80	5.59	5.03	3.14	1.01	0.10	0.10	0.11	0.11	0.11	0.11	0.11	0.12				
160	0.09	0.62	2.07	3.31	3.83	3.44	1.95	0.60	0.09	0.09	0.09	0.10	0.11	0.10	0.10	0.10	0.10			
165	0.08	0.30	1.20	2.02	2.35	2.10	1.08	0.29	0.08	0.08	0.09	0.09	0.10	0.10	0.10	0.10	0.10			
170	0.09	0.14	0.51	0.93	1.15	0.81	0.46	0.13	0.09	0.09	0.10	0.10	0.10	0.08	0.09	0.09	0.10			
175	0.09	0.10	0.13	0.20	0.24	0.13	0.12	0.08	0.10	0.10	0.10	0.10	0.09	0.08	0.09	0.09	0.09			
180	0.10	0.10	0.10	0.10	0.06	0.08	0.08	0.08	0.10	0.09	0.10	0.10	0.10	0.06	0.08	0.08				

7. Integrating Sphere Test Results for LSXWY-1000-L27-DF-I-4

7.1 Test Data

Test Ambient Temperature (Integrating sphere internal temperature)	25.1°C	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	0.1733	23.998	4.1589	400.15	0.4615	0.4069	0.2653	0.5262	2648	94.5
1	00h00m10s	0.1734	23.998	4.1613	400.47	0.4614	0.407	0.2651	0.5262	2651	94.4
2	00h00m20s	0.1734	23.998	4.1613	400.42	0.4616	0.407	0.2652	0.5262	2648	94.5
3	00h00m30s	0.1735	23.998	4.1637	400.35	0.4614	0.4068	0.2652	0.5261	2649	94.4
4	00h00m40s	0.1735	23.998	4.1637	400.15	0.4614	0.4067	0.2653	0.5261	2648	94.5
5	00h00m50s	0.1735	23.998	4.1637	400.09	0.4613	0.4066	0.2652	0.526	2650	94.5
6	00h01m00s	0.1736	23.998	4.1661	400.41	0.4614	0.4068	0.2652	0.5261	2649	94.5
7	00h01m10s	0.1736	23.998	4.1661	400.44	0.4616	0.4069	0.2653	0.5262	2647	94.5
8	00h01m20s	0.1736	23.998	4.1661	400.12	0.4615	0.4068	0.2653	0.5261	2648	94.5
9	00h01m30s	0.1736	23.998	4.1661	400.35	0.4613	0.4067	0.2652	0.5261	2650	94.4
10	00h01m40s	0.1737	23.998	4.1685	400.45	0.4615	0.4069	0.2653	0.5262	2648	94.5
11	00h01m50s	0.1737	23.998	4.1685	400.6	0.4615	0.4069	0.2653	0.5262	2648	94.5
12	00h02m00s	0.1737	23.998	4.1685	400.31	0.4615	0.4068	0.2653	0.5261	2648	94.5
13	00h02m10s	0.1737	23.998	4.1685	400.52	0.4613	0.4068	0.2652	0.5261	2650	94.5
14	00h02m20s	0.1737	23.998	4.1685	400.56	0.4614	0.4067	0.2653	0.5261	2648	94.5
15	00h02m30s	0.1738	23.998	4.1709	400.35	0.4613	0.4066	0.2652	0.526	2649	94.4
16	00h02m40s	0.1738	23.998	4.1709	400.31	0.4613	0.4066	0.2653	0.526	2648	94.5
17	00h02m50s	0.1738	23.998	4.1709	400.48	0.4612	0.4065	0.2652	0.526	2649	94.5
18	00h03m00s	0.1738	23.998	4.1709	400.48	0.4615	0.4067	0.2653	0.5261	2647	94.5
19	00h03m10s	0.1738	23.998	4.1709	400.4	0.4616	0.4066	0.2654	0.5261	2645	94.4
20	00h03m20s	0.1738	23.998	4.1709	400.53	0.4615	0.4066	0.2653	0.5261	2647	94.5
21	00h03m30s	0.1738	23.998	4.1709	400.48	0.4614	0.4066	0.2654	0.526	2647	94.4

22	00h03m40s	0.1738	23.998	4.1709	400.59	0.4615	0.4067	0.2653	0.5261	2647	94.5
23	00h03m50s	0.1739	23.998	4.1733	400.38	0.4617	0.4066	0.2655	0.5261	2644	94.5
24	00h04m00s	0.1739	23.998	4.1733	400.65	0.4615	0.4067	0.2653	0.5261	2647	94.5
25	00h04m10s	0.1739	23.998	4.1733	400.59	0.4616	0.4066	0.2655	0.5261	2644	94.4
26	00h04m20s	0.1739	23.998	4.1733	400.39	0.4615	0.4067	0.2653	0.5261	2647	94.5
27	00h04m30s	0.1739	23.998	4.1733	400.76	0.4615	0.4066	0.2653	0.5261	2647	94.4
28	00h04m40s	0.1739	23.998	4.1733	400.44	0.4616	0.4066	0.2654	0.5261	2646	94.4
29	00h04m50s	0.1739	23.998	4.1733	400.54	0.4615	0.4067	0.2653	0.5261	2648	94.5
30	00h05m00s	0.1739	23.998	4.1733	400.34	0.4614	0.4066	0.2654	0.526	2647	94.5
31	00h05m10s	0.1739	23.998	4.1733	400.63	0.4616	0.4067	0.2654	0.5261	2645	94.4
32	00h05m20s	0.1739	23.998	4.1733	400.69	0.4616	0.4066	0.2654	0.5261	2645	94.4
33	00h05m30s	0.1739	23.998	4.1733	400.53	0.4615	0.4066	0.2654	0.5261	2646	94.5
34	00h05m40s	0.174	23.998	4.1757	400.66	0.4615	0.4067	0.2653	0.5261	2647	94.5
35	00h05m50s	0.174	23.998	4.1757	400.5	0.4615	0.4066	0.2654	0.5261	2646	94.5
36	00h06m00s	0.174	23.998	4.1757	400.33	0.4614	0.4064	0.2654	0.526	2646	94.4
37	00h06m10s	0.174	23.998	4.1757	400.61	0.4615	0.4066	0.2654	0.5261	2646	94.5
38	00h06m20s	0.174	23.998	4.1757	400.37	0.4615	0.4066	0.2654	0.526	2646	94.5
39	00h06m30s	0.174	23.998	4.1757	400.49	0.4616	0.4067	0.2654	0.5261	2646	94.5
40	00h06m40s	0.174	23.998	4.1757	400.44	0.4616	0.4066	0.2654	0.5261	2645	94.4
41	00h06m50s	0.174	23.998	4.1757	400.41	0.4614	0.4065	0.2654	0.526	2646	94.4
42	00h07m00s	0.174	23.998	4.1757	400.62	0.4614	0.4064	0.2654	0.526	2647	94.5
43	00h07m10s	0.174	23.998	4.1757	400.57	0.4616	0.4066	0.2654	0.5261	2645	94.5
44	00h07m20s	0.174	23.998	4.1757	400.55	0.4615	0.4066	0.2654	0.5261	2646	94.5
45	00h07m30s	0.174	23.998	4.1757	400.78	0.4614	0.4068	0.2653	0.5261	2648	94.5
46	00h07m40s	0.174	23.998	4.1757	400.64	0.4615	0.4065	0.2654	0.526	2646	94.5
47	00h07m50s	0.174	23.998	4.1757	400.47	0.4616	0.4066	0.2654	0.5261	2645	94.4
48	00h08m00s	0.174	23.998	4.1757	400.28	0.4616	0.4065	0.2654	0.526	2645	94.5
49	00h08m10s	0.174	23.998	4.1757	400.55	0.4615	0.4065	0.2654	0.526	2645	94.4
50	00h08m20s	0.174	23.998	4.1757	400.43	0.4616	0.4065	0.2655	0.526	2645	94.4
51	00h08m30s	0.174	23.998	4.1757	400.67	0.4615	0.4066	0.2654	0.5261	2647	94.4
52	00h08m40s	0.174	23.998	4.1757	400.46	0.4615	0.4067	0.2654	0.5261	2646	94.4

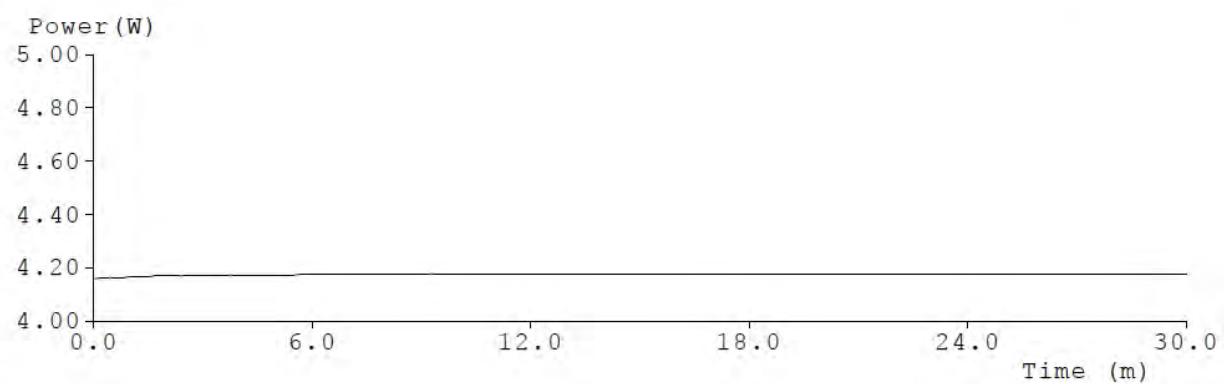
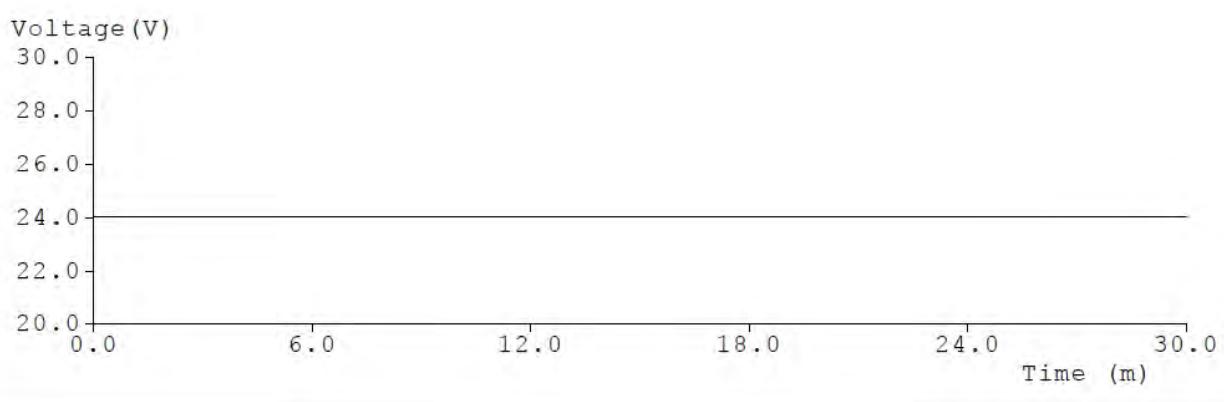
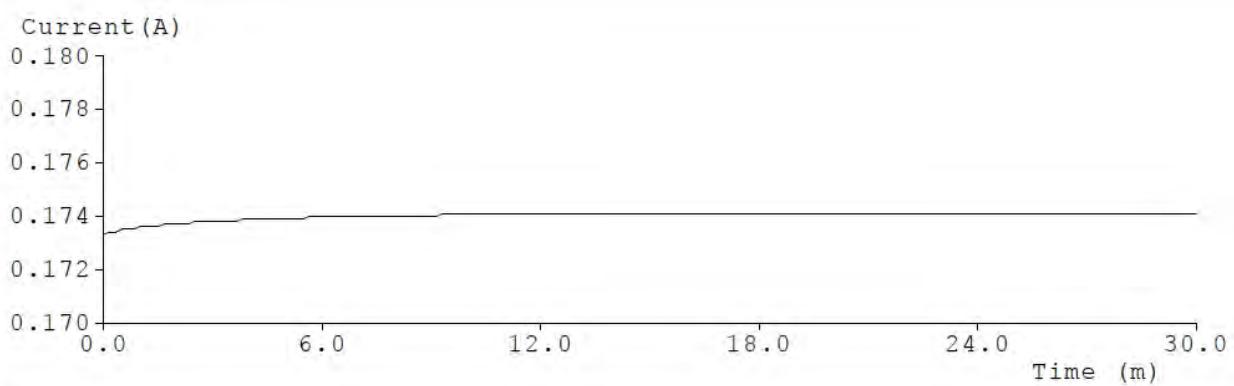
53	00h08m50s	0.174	23.998	4.1757	400.67	0.4616	0.4066	0.2654	0.5261	2645	94.4
54	00h09m00s	0.174	23.998	4.1757	400.68	0.4615	0.4067	0.2654	0.5261	2646	94.5
55	00h09m10s	0.174	23.998	4.1757	400.34	0.4616	0.4067	0.2654	0.5261	2645	94.5
56	00h09m20s	0.1741	23.998	4.1781	400.72	0.4615	0.4065	0.2654	0.526	2646	94.4
57	00h09m30s	0.1741	23.998	4.1781	400.48	0.4616	0.4064	0.2655	0.526	2643	94.4
58	00h09m40s	0.1741	23.998	4.1781	400.61	0.4614	0.4064	0.2654	0.526	2646	94.4
59	00h09m50s	0.1741	23.998	4.1781	400.59	0.4616	0.4065	0.2655	0.5261	2645	94.4
60	00h10m00s	0.1741	23.998	4.1781	400.6	0.4614	0.4065	0.2654	0.526	2646	94.4
61	00h10m10s	0.1741	23.998	4.1781	400.67	0.4615	0.4065	0.2654	0.526	2645	94.4
62	00h10m20s	0.1741	23.998	4.1781	400.62	0.4616	0.4064	0.2655	0.526	2644	94.4
63	00h10m30s	0.1741	23.998	4.1781	400.62	0.4615	0.4065	0.2654	0.526	2645	94.5
64	00h10m40s	0.1741	23.998	4.1781	400.79	0.4615	0.4065	0.2654	0.526	2646	94.5
65	00h10m50s	0.1741	23.998	4.1781	400.54	0.4613	0.4063	0.2654	0.5259	2646	94.5
66	00h11m00s	0.1741	23.998	4.1781	400.74	0.4615	0.4066	0.2654	0.526	2646	94.4
67	00h11m10s	0.1741	23.998	4.1781	400.38	0.4615	0.4066	0.2654	0.5261	2646	94.5
68	00h11m20s	0.1741	23.998	4.1781	400.67	0.4616	0.4065	0.2655	0.526	2645	94.4
69	00h11m30s	0.1741	23.998	4.1781	400.47	0.4615	0.4065	0.2654	0.526	2646	94.4
70	00h11m40s	0.1741	23.998	4.1781	400.77	0.4615	0.4065	0.2654	0.526	2646	94.4
71	00h11m50s	0.1741	23.998	4.1781	400.6	0.4616	0.4066	0.2654	0.5261	2645	94.5
72	00h12m00s	0.1741	23.998	4.1781	400.78	0.4614	0.4066	0.2653	0.526	2647	94.5
73	00h12m10s	0.1741	23.998	4.1781	400.66	0.4616	0.4067	0.2654	0.5261	2646	94.5
74	00h12m20s	0.1741	23.998	4.1781	400.4	0.4615	0.4066	0.2654	0.5261	2646	94.4
75	00h12m30s	0.1741	23.998	4.1781	400.63	0.4615	0.4067	0.2653	0.5261	2647	94.5
76	00h12m40s	0.1741	23.998	4.1781	400.46	0.4614	0.4065	0.2653	0.526	2647	94.5
77	00h12m50s	0.1741	23.998	4.1781	400.49	0.4617	0.4066	0.2655	0.5261	2644	94.4
78	00h13m00s	0.1741	23.998	4.1781	400.71	0.4615	0.4066	0.2654	0.5261	2646	94.5
79	00h13m10s	0.1741	23.998	4.1781	400.43	0.4615	0.4065	0.2654	0.526	2646	94.5
80	00h13m20s	0.1741	23.998	4.1781	400.9	0.4614	0.4065	0.2654	0.526	2646	94.4
81	00h13m30s	0.1741	23.998	4.1781	400.56	0.4614	0.4064	0.2654	0.526	2646	94.5
82	00h13m40s	0.1741	23.998	4.1781	400.53	0.4615	0.4065	0.2654	0.526	2645	94.5
83	00h13m50s	0.1741	23.998	4.1781	400.66	0.4614	0.4065	0.2654	0.526	2646	94.4

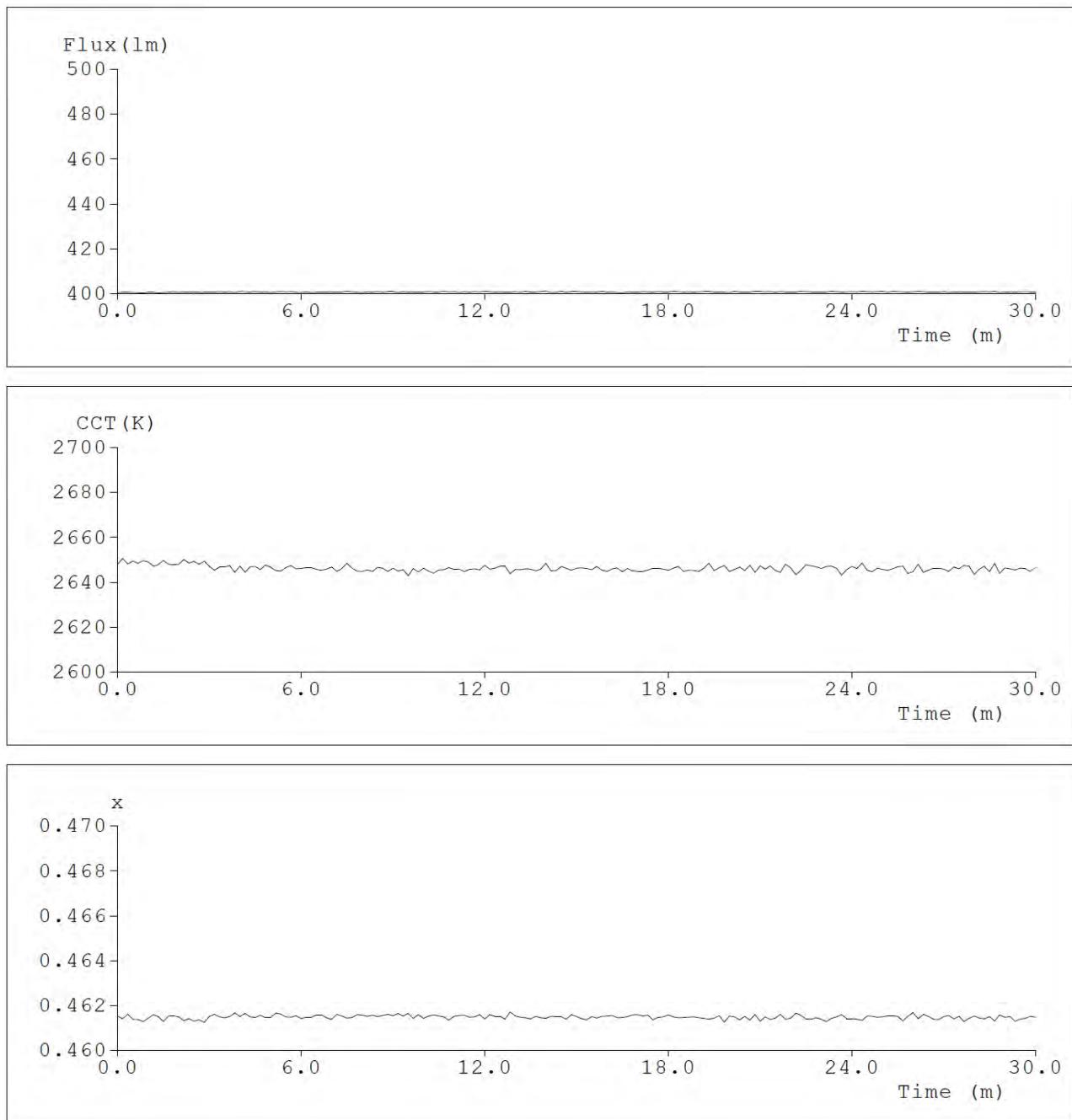
84	00h14m00s	0.1741	23.998	4.1781	400.92	0.4614	0.4067	0.2653	0.5261	2648	94.5
85	00h14m10s	0.1741	23.998	4.1781	400.36	0.4615	0.4065	0.2654	0.526	2645	94.4
86	00h14m20s	0.1741	23.998	4.1781	400.43	0.4615	0.4064	0.2654	0.526	2645	94.4
87	00h14m30s	0.1741	23.998	4.1781	400.81	0.4615	0.4067	0.2653	0.5261	2647	94.5
88	00h14m40s	0.1741	23.998	4.1781	400.4	0.4614	0.4064	0.2654	0.526	2646	94.5
89	00h14m50s	0.1741	23.998	4.1781	400.65	0.4616	0.4066	0.2654	0.5261	2645	94.5
90	00h15m00s	0.1741	23.998	4.1781	400.71	0.4615	0.4066	0.2654	0.5261	2646	94.5
91	00h15m10s	0.1741	23.998	4.1781	400.58	0.4614	0.4065	0.2654	0.526	2646	94.4
92	00h15m20s	0.1741	23.998	4.1781	400.42	0.4614	0.4063	0.2654	0.5259	2646	94.5
93	00h15m30s	0.1741	23.998	4.1781	400.54	0.4615	0.4065	0.2654	0.526	2646	94.4
94	00h15m40s	0.1741	23.998	4.1781	400.45	0.4614	0.4066	0.2653	0.526	2647	94.5
95	00h15m50s	0.1741	23.998	4.1781	400.81	0.4615	0.4065	0.2654	0.526	2645	94.4
96	00h16m00s	0.1741	23.998	4.1781	400.39	0.4615	0.4065	0.2654	0.526	2645	94.4
97	00h16m10s	0.1741	23.998	4.1781	400.59	0.4615	0.4067	0.2654	0.5261	2646	94.4
98	00h16m20s	0.1741	23.998	4.1781	400.38	0.4614	0.4065	0.2654	0.526	2646	94.5
99	00h16m30s	0.1741	23.998	4.1781	400.15	0.4615	0.4063	0.2655	0.5259	2645	94.5
100	00h16m40s	0.1741	23.998	4.1781	400.63	0.4615	0.4066	0.2654	0.526	2646	94.5
101	00h16m50s	0.1741	23.998	4.1781	400.46	0.4616	0.4066	0.2654	0.5261	2645	94.5
102	00h17m00s	0.1741	23.998	4.1781	400.47	0.4616	0.4066	0.2654	0.5261	2645	94.4
103	00h17m10s	0.1741	23.998	4.1781	400.69	0.4615	0.4064	0.2655	0.526	2645	94.4
104	00h17m20s	0.1741	23.998	4.1781	400.54	0.4616	0.4066	0.2654	0.5261	2645	94.5
105	00h17m30s	0.1741	23.998	4.1781	400.51	0.4614	0.4064	0.2654	0.5259	2646	94.4
106	00h17m40s	0.1741	23.998	4.1781	400.7	0.4615	0.4065	0.2654	0.526	2646	94.5
107	00h17m50s	0.1741	23.998	4.1781	400.52	0.4615	0.4065	0.2654	0.526	2646	94.5
108	00h18m00s	0.1741	23.998	4.1781	400.63	0.4616	0.4066	0.2654	0.5261	2645	94.5
109	00h18m10s	0.1741	23.998	4.1781	400.82	0.4615	0.4066	0.2654	0.5261	2646	94.5
110	00h18m20s	0.1741	23.998	4.1781	400.71	0.4614	0.4066	0.2653	0.5261	2647	94.5
111	00h18m30s	0.1741	23.998	4.1781	400.51	0.4615	0.4064	0.2655	0.526	2645	94.4
112	00h18m40s	0.1741	23.998	4.1781	400.55	0.4615	0.4064	0.2654	0.526	2645	94.4
113	00h18m50s	0.1741	23.998	4.1781	400.43	0.4615	0.4064	0.2654	0.526	2645	94.4
114	00h19m00s	0.1741	23.998	4.1781	400.61	0.4614	0.4063	0.2655	0.526	2645	94.4

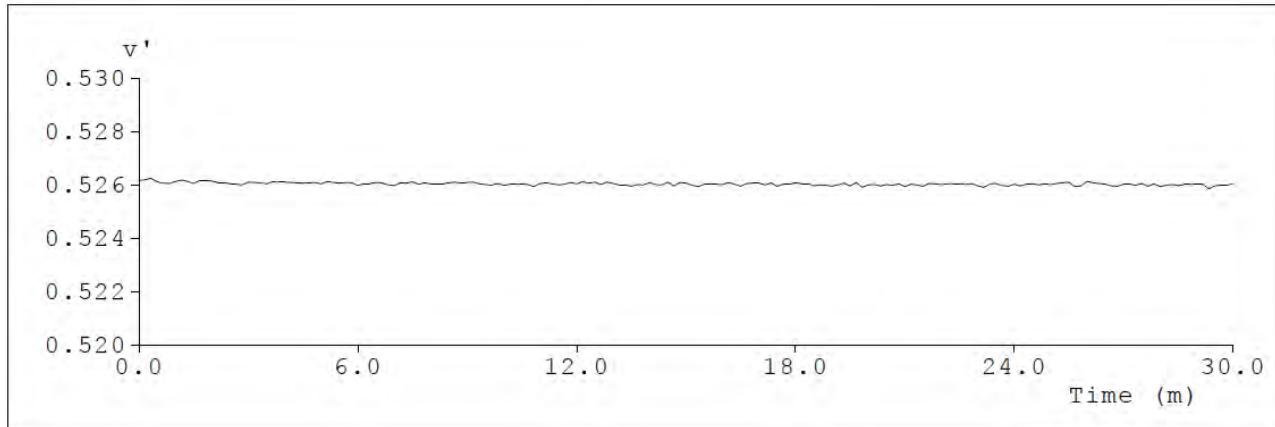
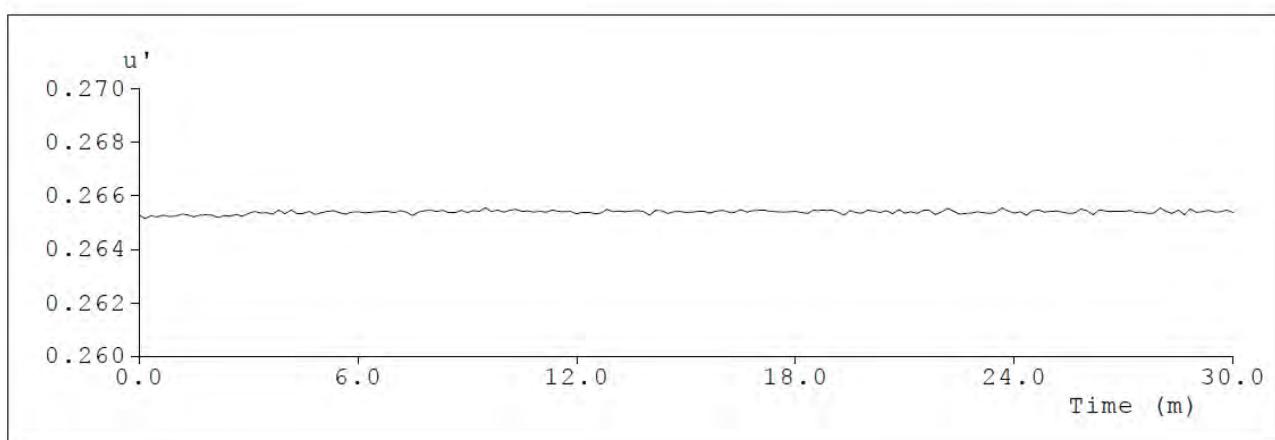
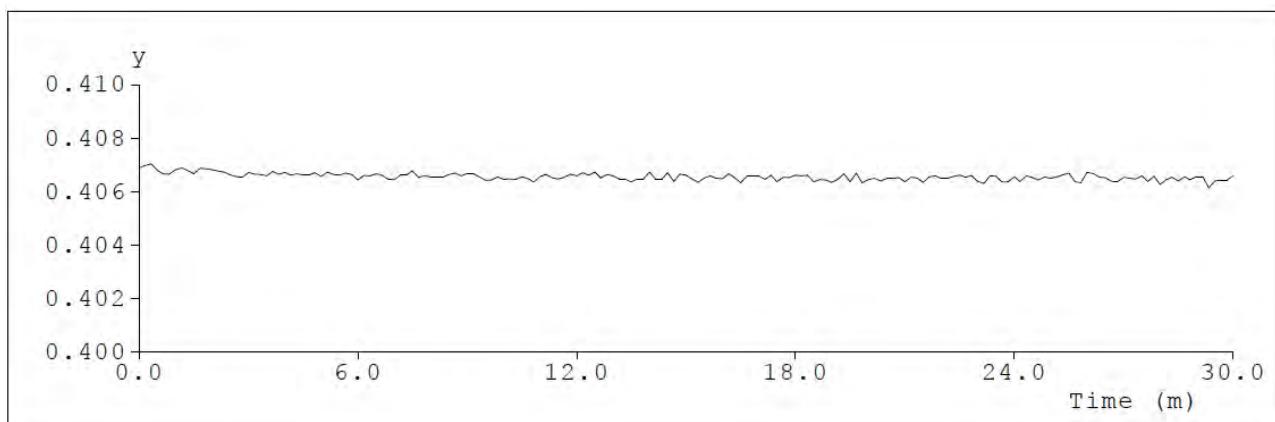
115	00h19m10s	0.1741	23.998	4.1781	400.75	0.4614	0.4065	0.2654	0.526	2646	94.5
116	00h19m20s	0.1741	23.998	4.1781	400.68	0.4614	0.4067	0.2653	0.5261	2648	94.5
117	00h19m30s	0.1741	23.998	4.1781	400.58	0.4614	0.4064	0.2654	0.526	2645	94.5
118	00h19m40s	0.1741	23.998	4.1781	400.59	0.4615	0.4067	0.2654	0.5261	2646	94.5
119	00h19m50s	0.1741	23.998	4.1781	400.5	0.4613	0.4063	0.2653	0.5259	2647	94.5
120	00h20m00s	0.1741	23.998	4.1781	400.27	0.4615	0.4064	0.2655	0.526	2645	94.4
121	00h20m10s	0.1741	23.998	4.1781	400.87	0.4615	0.4065	0.2654	0.526	2646	94.4
122	00h20m20s	0.1741	23.998	4.1781	400.57	0.4614	0.4064	0.2654	0.526	2647	94.5
123	00h20m30s	0.1741	23.998	4.1781	400.52	0.4615	0.4065	0.2654	0.526	2645	94.5
124	00h20m40s	0.1741	23.998	4.1781	400.54	0.4613	0.4065	0.2653	0.526	2647	94.5
125	00h20m50s	0.1741	23.998	4.1781	400.88	0.4616	0.4065	0.2655	0.526	2644	94.4
126	00h21m00s	0.1741	23.998	4.1781	400.83	0.4613	0.4064	0.2653	0.5259	2647	94.4
127	00h21m10s	0.1741	23.998	4.1781	400.52	0.4615	0.4065	0.2654	0.526	2646	94.5
128	00h21m20s	0.1741	23.998	4.1781	400.75	0.4614	0.4065	0.2653	0.526	2647	94.5
129	00h21m30s	0.1741	23.998	4.1781	400.42	0.4614	0.4063	0.2654	0.5259	2645	94.5
130	00h21m40s	0.1741	23.998	4.1781	400.72	0.4616	0.4065	0.2655	0.5261	2644	94.4
131	00h21m50s	0.1741	23.998	4.1781	400.53	0.4614	0.4066	0.2653	0.526	2648	94.4
132	00h22m00s	0.1741	23.998	4.1781	400.55	0.4614	0.4065	0.2654	0.526	2646	94.5
133	00h22m10s	0.1741	23.998	4.1781	400.57	0.4616	0.4065	0.2655	0.526	2643	94.4
134	00h22m20s	0.1741	23.998	4.1781	400.83	0.4616	0.4066	0.2654	0.5261	2645	94.5
135	00h22m30s	0.1741	23.998	4.1781	400.74	0.4614	0.4066	0.2653	0.5261	2648	94.5
136	00h22m40s	0.1741	23.998	4.1781	400.61	0.4614	0.4065	0.2653	0.526	2647	94.5
137	00h22m50s	0.1741	23.998	4.1781	400.56	0.4614	0.4066	0.2653	0.5261	2647	94.4
138	00h23m00s	0.1741	23.998	4.1781	400.6	0.4614	0.4064	0.2654	0.526	2646	94.4
139	00h23m10s	0.1741	23.998	4.1781	400.57	0.4613	0.4063	0.2654	0.5259	2647	94.5
140	00h23m20s	0.1741	23.998	4.1781	400.85	0.4614	0.4066	0.2653	0.526	2647	94.4
141	00h23m30s	0.1741	23.998	4.1781	400.71	0.4615	0.4066	0.2654	0.526	2646	94.5
142	00h23m40s	0.1741	23.998	4.1781	400.47	0.4616	0.4063	0.2655	0.526	2643	94.4
143	00h23m50s	0.1741	23.998	4.1781	400.52	0.4614	0.4064	0.2654	0.526	2646	94.4
144	00h24m00s	0.1741	23.998	4.1781	400.64	0.4614	0.4065	0.2653	0.526	2647	94.5
145	00h24m10s	0.1741	23.998	4.1781	400.62	0.4614	0.4064	0.2654	0.526	2646	94.5

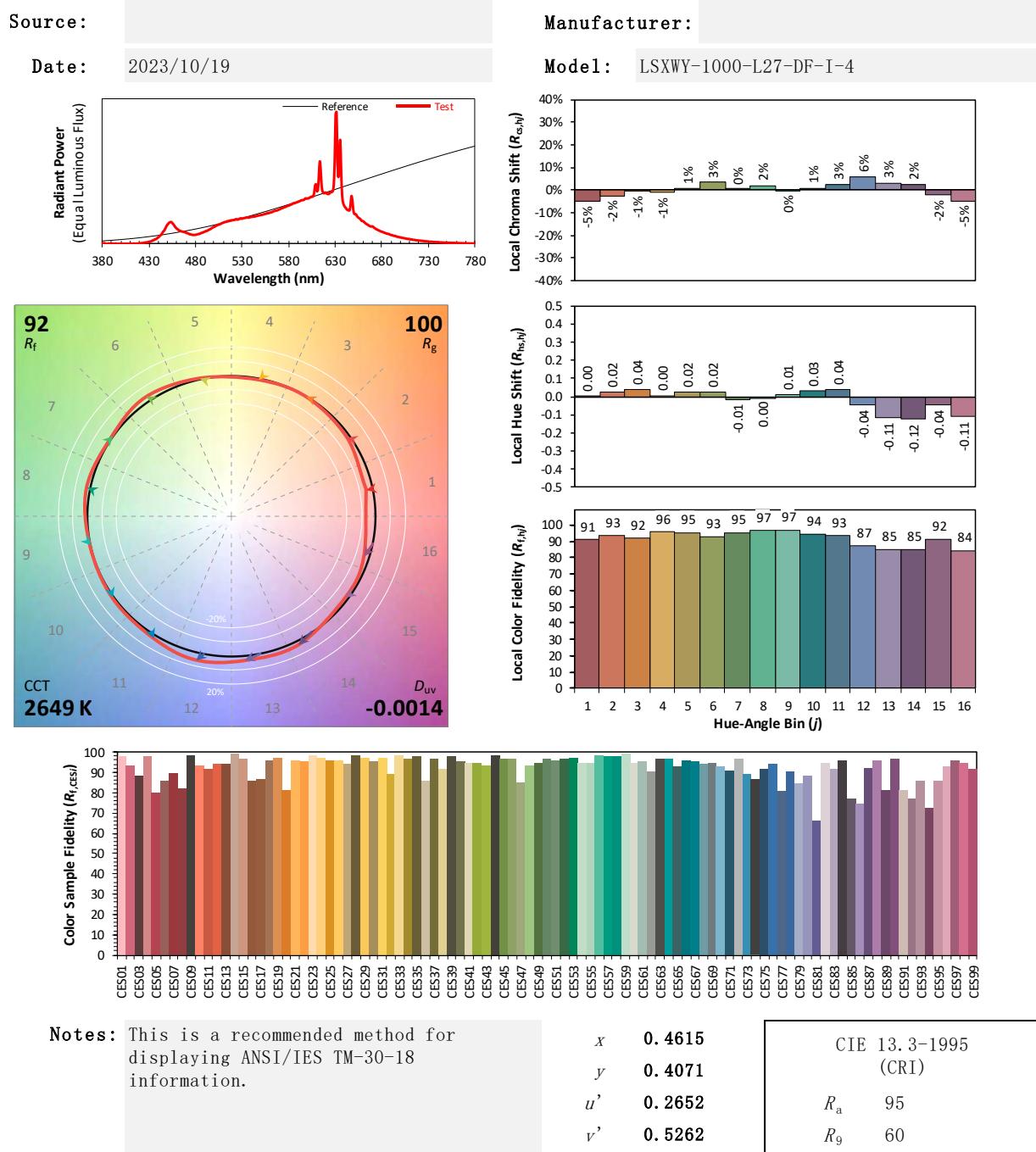
146	00h24m20s	0.1741	23.998	4.1781	400.87	0.4613	0.4066	0.2653	0.526	2648	94.4
147	00h24m30s	0.1741	23.998	4.1781	400.67	0.4615	0.4065	0.2654	0.526	2645	94.4
148	00h24m40s	0.1741	23.998	4.1781	400.57	0.4615	0.4064	0.2655	0.526	2645	94.4
149	00h24m50s	0.1741	23.998	4.1781	400.66	0.4615	0.4065	0.2654	0.526	2646	94.4
150	00h25m00s	0.1741	23.998	4.1781	400.81	0.4615	0.4065	0.2654	0.526	2646	94.4
151	00h25m10s	0.1741	23.998	4.1781	400.43	0.4615	0.4065	0.2654	0.526	2645	94.4
152	00h25m20s	0.1741	23.998	4.1781	400.82	0.4615	0.4066	0.2654	0.5261	2646	94.5
153	00h25m30s	0.1741	23.998	4.1781	400.77	0.4615	0.4067	0.2653	0.5261	2647	94.5
154	00h25m40s	0.1741	23.998	4.1781	400.59	0.4613	0.4064	0.2654	0.5259	2647	94.5
155	00h25m50s	0.1741	23.998	4.1781	400.51	0.4615	0.4063	0.2655	0.526	2644	94.4
156	00h26m00s	0.1741	23.998	4.1781	400.61	0.4617	0.4067	0.2654	0.5261	2645	94.5
157	00h26m10s	0.1741	23.998	4.1781	400.82	0.4614	0.4067	0.2653	0.5261	2648	94.5
158	00h26m20s	0.1741	23.998	4.1781	400.65	0.4616	0.4065	0.2655	0.526	2644	94.4
159	00h26m30s	0.1741	23.998	4.1781	400.5	0.4615	0.4065	0.2654	0.526	2645	94.5
160	00h26m40s	0.1741	23.998	4.1781	400.39	0.4614	0.4064	0.2654	0.526	2646	94.5
161	00h26m50s	0.1741	23.998	4.1781	400.42	0.4614	0.4064	0.2654	0.526	2646	94.4
162	00h27m00s	0.1741	23.998	4.1781	400.71	0.4615	0.4065	0.2654	0.526	2646	94.4
163	00h27m10s	0.1741	23.998	4.1781	400.33	0.4615	0.4065	0.2655	0.526	2645	94.4
164	00h27m20s	0.1741	23.998	4.1781	400.56	0.4614	0.4065	0.2654	0.526	2647	94.5
165	00h27m30s	0.1741	23.998	4.1781	400.56	0.4615	0.4066	0.2654	0.5261	2646	94.4
166	00h27m40s	0.1741	23.998	4.1781	400.41	0.4613	0.4064	0.2653	0.5259	2647	94.5
167	00h27m50s	0.1741	23.998	4.1781	400.43	0.4614	0.4066	0.2653	0.526	2647	94.5
168	00h28m00s	0.1741	23.998	4.1781	400.43	0.4615	0.4063	0.2655	0.5259	2643	94.4
169	00h28m10s	0.1741	23.998	4.1781	400.57	0.4614	0.4064	0.2654	0.526	2646	94.5
170	00h28m20s	0.1741	23.998	4.1781	400.69	0.4614	0.4065	0.2653	0.526	2647	94.4
171	00h28m30s	0.1741	23.998	4.1781	400.56	0.4615	0.4064	0.2655	0.526	2645	94.4
172	00h28m40s	0.1741	23.998	4.1781	400.88	0.4613	0.4065	0.2653	0.526	2648	94.4
173	00h28m50s	0.1741	23.998	4.1781	400.37	0.4616	0.4064	0.2655	0.526	2644	94.4
174	00h29m00s	0.1741	23.998	4.1781	400.6	0.4615	0.4066	0.2654	0.526	2646	94.5
175	00h29m10s	0.1741	23.998	4.1781	400.57	0.4615	0.4066	0.2654	0.526	2646	94.4
176	00h29m20s	0.1741	23.998	4.1781	400.39	0.4613	0.4061	0.2655	0.5258	2645	94.4

177	00h29m30s	0.1741	23.998	4.1781	400.57	0.4614	0.4064	0.2654	0.526	2646	94.5
178	00h29m40s	0.1741	23.998	4.1781	400.7	0.4614	0.4064	0.2654	0.526	2646	94.5
179	00h29m50s	0.1741	23.998	4.1781	400.56	0.4615	0.4064	0.2655	0.526	2645	94.5
180	00h30m00s	0.1741	23.998	4.1781	400.61	0.4615	0.4066	0.2654	0.526	2647	94.5

Test curves

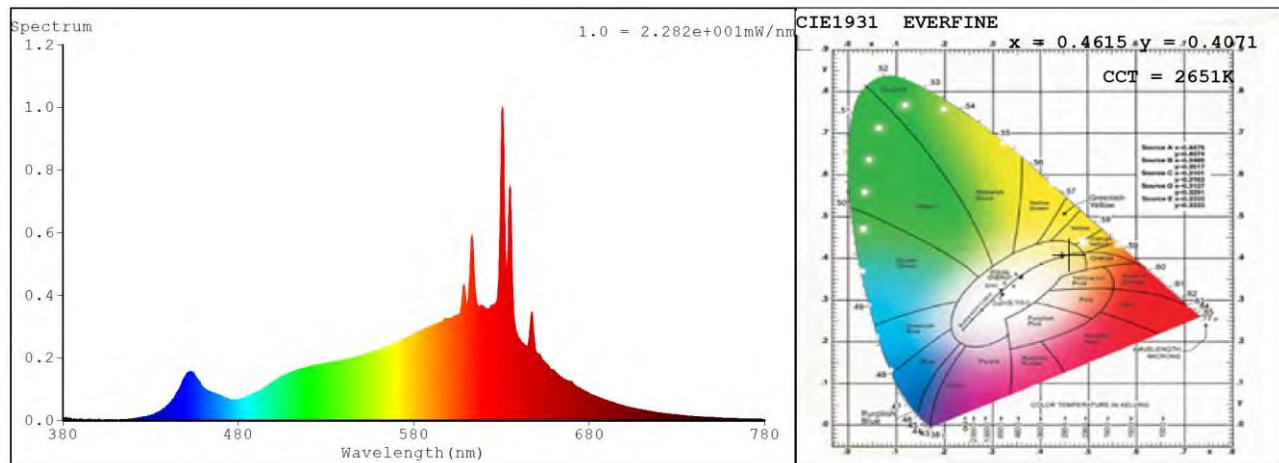




7.2 ANSI/IES TM-30-18 Color Rendition Report*ANSI/IES TM-30-18 Color Rendition Report**

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

7.3 Relative Spectral Power Distribution



nm	mW								
380	0.0057	414	0.0039	448	0.1219	482	0.0697	516	0.1659
381	0.0066	415	0.0022	449	0.1337	483	0.0712	517	0.1656
382	0.0061	416	0.0032	450	0.1417	484	0.0729	518	0.169
383	0.0021	417	0.0036	451	0.1494	485	0.0762	519	0.1686
384	0	418	0.004	452	0.1545	486	0.0795	520	0.1704
385	0.0009	419	0.0039	453	0.1566	487	0.0805	521	0.1718
386	0.0032	420	0.0045	454	0.1549	488	0.0841	522	0.172
387	0.0043	421	0.0066	455	0.1465	489	0.0856	523	0.1773
388	0.0007	422	0.0066	456	0.1393	490	0.0906	524	0.1749
389	0	423	0.0073	457	0.1298	491	0.0914	525	0.1732
390	0.0031	424	0.0094	458	0.1199	492	0.0943	526	0.1777
391	0.0021	425	0.0094	459	0.1133	493	0.0974	527	0.1787
392	0.0004	426	0.0113	460	0.1073	494	0.1017	528	0.1836
393	0.0022	427	0.0123	461	0.1025	495	0.1043	529	0.1801
394	0.0043	428	0.0127	462	0.096	496	0.1084	530	0.1812
395	0.0008	429	0.0152	463	0.0944	497	0.1129	531	0.184
396	0.0004	430	0.0169	464	0.0913	498	0.1164	532	0.1847
397	0	431	0.018	465	0.0892	499	0.1213	533	0.1855
398	0.0012	432	0.0199	466	0.0879	500	0.1232	534	0.1873
399	0.0022	433	0.0235	467	0.0864	501	0.1267	535	0.1893
400	0.002	434	0.0256	468	0.0839	502	0.1312	536	0.1874
401	0.0009	435	0.0288	469	0.0828	503	0.1337	537	0.1885
402	0.0011	436	0.0327	470	0.0783	504	0.1378	538	0.1896
403	0.0012	437	0.0355	471	0.0769	505	0.1385	539	0.1928
404	0.002	438	0.0383	472	0.0744	506	0.1416	540	0.1924
405	0.0018	439	0.045	473	0.0708	507	0.1447	541	0.1965
406	0.0026	440	0.0485	474	0.0692	508	0.1487	542	0.1939
407	0.0015	441	0.0563	475	0.068	509	0.1509	543	0.196
408	0.0016	442	0.0622	476	0.0654	510	0.1534	544	0.1967
409	0.001	443	0.0677	477	0.0651	511	0.1566	545	0.2
410	0.0017	444	0.079	478	0.065	512	0.1571	546	0.2007
411	0.0022	445	0.0892	479	0.0647	513	0.1595	547	0.2023
412	0.0018	446	0.0954	480	0.0665	514	0.1628	548	0.2047
413	0.0029	447	0.1078	481	0.068	515	0.1615	549	0.2048

nm	mW								
550	0.2071	599	0.3225	648	0.3088	697	0.0515	746	0.0106
551	0.2075	600	0.3241	649	0.2425	698	0.0493	747	0.01
552	0.2094	601	0.3246	650	0.215	699	0.0479	748	0.0098
553	0.2118	602	0.3298	651	0.2126	700	0.0468	749	0.0095
554	0.2137	603	0.3321	652	0.2101	701	0.045	750	0.0096
555	0.2144	604	0.3366	653	0.1979	702	0.0437	751	0.009
556	0.2169	605	0.3363	654	0.1906	703	0.0424	752	0.0087
557	0.2216	606	0.34	655	0.185	704	0.0413	753	0.0088
558	0.2191	607	0.3636	656	0.1806	705	0.0395	754	0.0085
559	0.2225	608	0.4159	657	0.1732	706	0.0382	755	0.0083
560	0.2236	609	0.4242	658	0.165	707	0.0371	756	0.0079
561	0.2261	610	0.3743	659	0.1632	708	0.0362	757	0.0079
562	0.2276	611	0.3841	660	0.1605	709	0.036	758	0.0078
563	0.2317	612	0.4817	661	0.1538	710	0.0337	759	0.0075
564	0.2336	613	0.5872	662	0.1478	711	0.0326	760	0.0071
565	0.2367	614	0.5235	663	0.1426	712	0.0325	761	0.007
566	0.2378	615	0.4142	664	0.1391	713	0.0303	762	0.0064
567	0.2384	616	0.3742	665	0.1349	714	0.0299	763	0.0066
568	0.2414	617	0.3639	666	0.1299	715	0.0291	764	0.0062
569	0.2444	618	0.3609	667	0.1266	716	0.0275	765	0.0063
570	0.2465	619	0.367	668	0.1246	717	0.027	766	0.0059
571	0.2505	620	0.362	669	0.1255	718	0.0262	767	0.0058
572	0.2544	621	0.3562	670	0.1243	719	0.0253	768	0.0058
573	0.255	622	0.3563	671	0.1175	720	0.0248	769	0.0057
574	0.2605	623	0.3567	672	0.1131	721	0.0241	770	0.0056
575	0.2612	624	0.3663	673	0.1084	722	0.0235	771	0.0052
576	0.2638	625	0.3674	674	0.1043	723	0.0226	772	0.0048
577	0.2665	626	0.3703	675	0.1018	724	0.0217	773	0.005
578	0.2708	627	0.3763	676	0.0974	725	0.0211	774	0.0045
579	0.2713	628	0.4182	677	0.0957	726	0.0197	775	0.0043
580	0.2744	629	0.5835	678	0.0912	727	0.0196	776	0.0046
581	0.2763	630	0.9196	679	0.089	728	0.019	777	0.0042
582	0.2816	631	0.9372	680	0.0868	729	0.0183	778	0.0045
583	0.2821	632	0.599	681	0.0842	730	0.0179	779	0.0041
584	0.2873	633	0.4763	682	0.0815	731	0.0167	780	0.0041
585	0.2906	634	0.6291	683	0.079	732	0.0163		
586	0.2903	635	0.7375	684	0.0764	733	0.0167		
587	0.2941	636	0.5081	685	0.0746	734	0.0159		
588	0.2953	637	0.3456	686	0.0724	735	0.0145		
589	0.2981	638	0.2955	687	0.0718	736	0.0145		
590	0.3015	639	0.2753	688	0.068	737	0.0141		
591	0.3033	640	0.2635	689	0.0658	738	0.0133		
592	0.3065	641	0.2561	690	0.0637	739	0.0127		
593	0.3102	642	0.246	691	0.0629	740	0.0131		
594	0.3117	643	0.2424	692	0.0593	741	0.0127		
595	0.3126	644	0.2391	693	0.058	742	0.0118		
596	0.3143	645	0.2401	694	0.0576	743	0.0114		
597	0.321	646	0.2791	695	0.0547	744	0.0115		
598	0.3247	647	0.3407	696	0.0517	745	0.0108		

8. Goniophotometer Test results for LSXWY-1000-L27-DF-I-4

8.1 Test Data

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

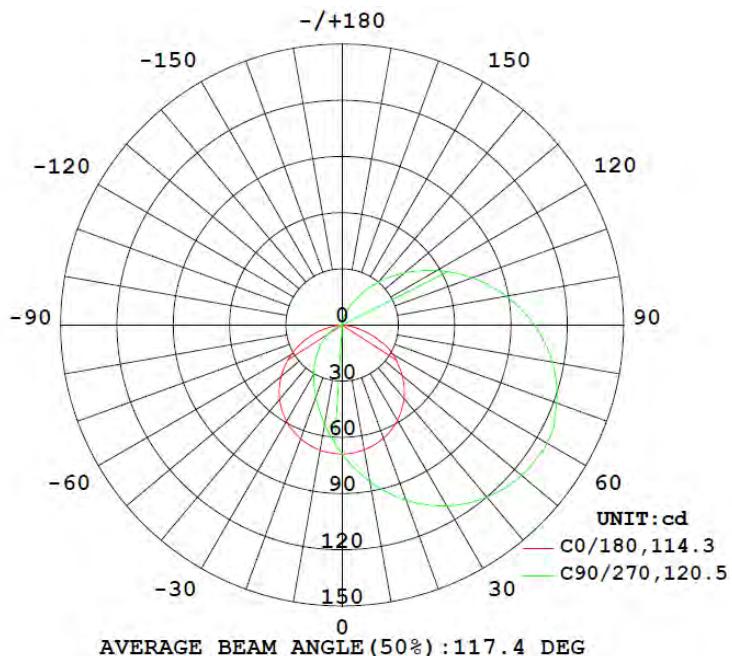
Electrical Measurement

Input Voltage (V)	Frequency (Hz)	Input Current(A)	Power Factor	Power(W)
24.001	--	0.18203	1.0000	4.369

Optical Measurement

Luminous Flux (lm)	Efficacy(lm/W)	I_{max} (cd)	η up (%)	η down (%)
422.672	96.74	126.2	24	76

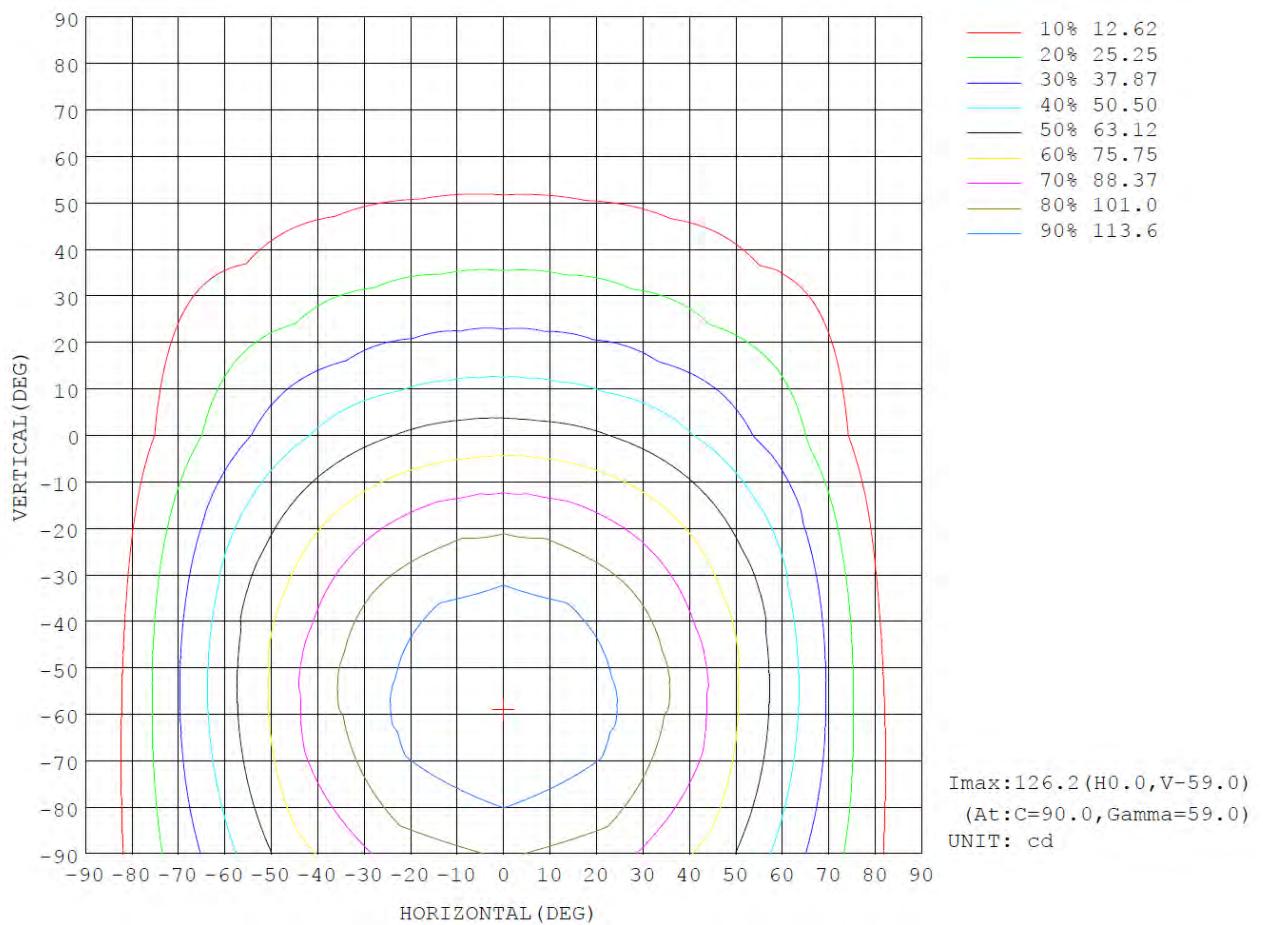
8.2 Luminous Intensity Distribution



8.3 Zonal Flux Diagram

γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	%lum,lamp
10	67.61	79.47	84.78	79.63	67.84	57.57	53.85	57.46	0- 10	6.555	6.555	1.55,1.55
20	64.27	88.54	99.41	88.87	64.67	46.50	41.07	46.33	10- 20	19.28	25.84	6.11,6.11
30	58.78	95.32	111.4	95.75	59.36	36.03	30.35	35.85	20- 30	30.76	56.59	13.4,13.4
40	51.25	99.25	119.9	99.73	51.89	26.36	21.28	26.13	30- 40	40.04	96.63	22.9,22.9
50	41.74	100.1	124.8	100.5	42.43	17.65	13.76	17.44	40- 50	46.29	142.9	33.8,33.8
60	31.33	98.39	126.2	98.77	31.24	10.33	7.592	9.960	50- 60	49.04	192.0	45.4,45.4
70	18.11	91.67	121.6	91.97	18.85	4.650	3.078	3.940	60- 70	48.07	240.0	56.8,56.8
80	5.529	82.54	113.7	82.72	6.876	1.321	1.013	0.8459	70- 80	43.57	283.6	67.1,67.1
90	0.3759	71.05	102.5	71.22	0.4310	0.1757	0.2116	0.1503	80- 90	37.58	321.2	76.76
100	0.4971	58.70	88.94	58.91	0.5196	0.1712	0.2138	0.1651	90-100	31.49	352.7	83.4,83.4
110	0.5528	46.45	73.93	46.68	0.4237	0.1293	0.1630	0.1321	100-110	25.05	377.7	89.4,89.4
120	0.3862	34.97	58.33	35.10	0.3764	0.1458	0.1804	0.1660	110-120	18.49	396.2	93.7,93.7
130	0.3223	24.94	43.44	25.22	0.3442	0.1888	0.1943	0.2104	120-130	12.61	408.8	96.7,96.7
140	0.2575	16.43	29.76	16.79	0.2676	0.1866	0.1908	0.2091	130-140	7.701	416.5	98.5,98.5
150	0.1941	9.596	17.91	9.929	0.1737	0.1814	0.1912	0.1987	140-150	4.039	420.5	99.5,99.5
160	0.1577	4.657	8.648	4.185	0.1746	0.1788	0.1812	0.1812	150-160	1.654	422.2	99.9,99.9
170	0.1667	1.252	2.566	1.039	0.1798	0.1818	0.1621	0.1660	160-170	0.4302	422.6	100,100
180	0.1759	0.1745	0.1118	0.1446	0.1754	0.1749	0.1669	0.1473	170-180	0.0379	422.7	100,100
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

8.4 Isocandela Diagram



8.5 Luminous Distribution Intensity Data

Table--1

γ (DEG)	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	UNIT: cd
0	68.8	68.8	68.8	68.8	68.8	68.8	68.8	68.8	68.8	68.8	68.8	68.8	68.8	68.8	68.8	68.8	68.8	
5	68.5	71.6	74.3	76.2	76.8	76.2	74.4	71.7	68.6	65.6	63.2	61.6	61.1	61.6	63.1	65.5		
10	67.6	73.9	79.5	83.4	84.8	83.4	79.6	74.1	67.8	62.0	57.6	54.8	53.8	54.7	57.5	61.9		
15	66.2	75.7	84.3	90.2	92.4	90.3	84.5	76.0	66.5	58.1	52.0	48.4	47.2	48.3	51.8	57.9		
20	64.3	77.0	88.5	96.6	99.4	96.7	88.9	77.3	64.7	53.9	46.5	42.4	41.1	42.3	46.3	53.6		
25	61.8	77.7	92.3	102	106	102	92.7	78.2	62.3	49.4	41.2	36.9	35.5	36.8	41.0	49.1		
30	58.8	77.8	95.3	107	111	107	95.8	78.4	59.4	44.7	36.0	31.7	30.4	31.6	35.9	44.4		
35	55.3	77.4	97.7	111	116	112	98.1	78.0	55.9	39.8	31.1	26.9	25.6	26.8	30.9	39.5		
40	51.2	76.3	99.3	115	120	115	99.7	76.9	51.9	34.8	26.4	22.4	21.3	22.3	26.1	34.5		
45	46.7	74.6	100	117	123	117	101	75.3	47.4	29.8	21.8	18.4	17.4	18.3	21.6	29.5		
50	41.7	72.3	100	118	125	119	101	73.0	42.4	24.7	17.7	14.7	13.8	14.5	17.4	24.4		
55	36.3	69.3	99.3	119	126	119	99.7	70.0	37.1	19.8	13.8	11.3	10.5	11.1	13.6	19.5		
60	31.3	66.4	98.4	119	126	119	98.8	67.1	31.2	15.2	10.3	8.32	7.59	8.00	9.96	14.9		
65	25.3	62.2	95.9	117	125	118	96.2	62.9	25.1	10.9	7.26	5.68	5.02	5.24	6.74	10.7		
70	18.1	56.6	91.7	114	122	114	92.0	57.2	18.9	7.21	4.65	3.53	3.08	3.03	3.94	6.87		
75	11.5	51.2	87.5	110	118	110	87.7	51.9	12.7	4.13	2.62	2.07	1.82	1.68	1.88	3.65		
80	5.53	45.5	82.5	106	114	106	82.7	46.0	6.88	1.85	1.32	1.13	1.01	0.88	0.85	1.25		
85	1.61	39.5	77.0	101	108	100	77.2	40.0	2.24	0.60	0.53	0.51	0.52	0.41	0.33	0.32		
90	0.38	33.7	71.1	94.6	102	94.5	71.2	34.3	0.43	0.12	0.18	0.21	0.21	0.20	0.15	0.09		
95	0.45	28.5	64.9	88.1	95.9	88.0	65.1	29.1	0.49	0.12	0.18	0.24	0.32	0.23	0.18	0.12		
100	0.50	24.0	58.7	81.3	88.9	81.2	58.9	24.6	0.52	0.13	0.17	0.20	0.21	0.20	0.17	0.13		
105	0.52	20.3	52.5	74.2	81.5	74.1	52.7	20.2	0.49	0.12	0.16	0.19	0.23	0.19	0.16	0.16		
110	0.55	17.3	46.4	66.9	73.9	66.8	46.7	17.6	0.42	0.12	0.13	0.16	0.16	0.15	0.13	0.18		
115	0.41	14.5	40.5	59.4	66.0	59.4	40.4	14.7	0.41	0.16	0.13	0.15	0.18	0.16	0.14	0.21		
120	0.39	12.1	35.0	52.2	58.3	52.3	35.1	12.4	0.38	0.20	0.15	0.17	0.18	0.17	0.17	0.25		
125	0.36	10.1	29.8	45.2	50.8	45.3	30.0	10.4	0.37	0.25	0.19	0.20	0.20	0.20	0.21	0.29		
130	0.32	8.36	24.9	38.5	43.4	38.6	25.2	8.66	0.34	0.25	0.19	0.19	0.19	0.19	0.19	0.21	0.28	
135	0.29	6.82	20.5	32.1	36.4	32.2	20.8	6.96	0.31	0.24	0.19	0.19	0.19	0.19	0.19	0.21	0.27	
140	0.26	5.49	16.4	26.1	29.8	26.2	16.8	5.57	0.27	0.23	0.19	0.19	0.19	0.19	0.19	0.21	0.25	
145	0.23	4.32	12.8	20.5	23.6	20.7	13.2	4.41	0.22	0.21	0.19	0.19	0.19	0.20	0.21	0.24		
150	0.19	3.28	9.60	15.5	17.9	15.7	9.93	3.41	0.17	0.18	0.18	0.20	0.19	0.19	0.20	0.23		
155	0.17	2.34	6.92	11.1	12.9	11.3	7.20	2.16	0.18	0.17	0.18	0.19	0.19	0.19	0.19	0.21		
160	0.16	1.51	4.66	7.48	8.65	7.62	4.18	1.30	0.17	0.17	0.18	0.17	0.18	0.18	0.18	0.19		
165	0.15	0.77	2.71	4.52	5.24	4.54	2.24	0.70	0.17	0.17	0.18	0.17	0.16	0.17	0.16	0.18		
170	0.17	0.35	1.25	2.15	2.57	1.73	1.04	0.35	0.18	0.18	0.18	0.18	0.17	0.17	0.15	0.16		
175	0.17	0.18	0.31	0.51	0.65	0.33	0.30	0.18	0.18	0.18	0.18	0.17	0.17	0.15	0.16	0.16		
180	0.18	0.17	0.17	0.17	0.11	0.14	0.14	0.15	0.18	0.17	0.17	0.17	0.17	0.13	0.15	0.15		

9. Integrating Sphere Test Results for LSXWY-1000-L27-DF-I-6

9.1 Test Data

Test Ambient Temperature (Integrating sphere internal temperature)	25.1°C	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	0.2504	23.998	6.0091	576.01	0.4615	0.4073	0.265	0.5263	2652	94.5
1	00h00m10s	0.2505	23.998	6.0115	575.91	0.4614	0.4072	0.265	0.5263	2653	94.4
2	00h00m20s	0.2506	23.998	6.0139	576.33	0.4616	0.4073	0.2651	0.5264	2651	94.4
3	00h00m30s	0.2507	23.998	6.0163	576.44	0.4614	0.4072	0.2651	0.5263	2652	94.4
4	00h00m40s	0.2508	23.998	6.0187	576.14	0.4612	0.407	0.265	0.5262	2653	94.4
5	00h00m50s	0.2509	23.998	6.0211	576.07	0.4613	0.407	0.2651	0.5262	2652	94.4
6	00h01m00s	0.2509	23.998	6.0211	576.01	0.4613	0.4068	0.2651	0.5261	2651	94.4
7	00h01m10s	0.251	23.998	6.0235	575.87	0.4613	0.407	0.2651	0.5262	2652	94.4
8	00h01m20s	0.2511	23.998	6.0259	576.02	0.4615	0.4071	0.2652	0.5263	2650	94.5
9	00h01m30s	0.2511	23.998	6.0259	576.18	0.4615	0.4068	0.2653	0.5261	2647	94.4
10	00h01m40s	0.2512	23.998	6.0283	576.15	0.4616	0.407	0.2652	0.5262	2648	94.5
11	00h01m50s	0.2512	23.998	6.0283	576.34	0.4615	0.4069	0.2652	0.5262	2649	94.4
12	00h02m00s	0.2513	23.998	6.0307	576.39	0.4614	0.4067	0.2653	0.5261	2649	94.4
13	00h02m10s	0.2513	23.998	6.0307	576.42	0.4615	0.4068	0.2653	0.5261	2648	94.5
14	00h02m20s	0.2514	23.998	6.0331	576.57	0.4613	0.4066	0.2653	0.526	2648	94.4
15	00h02m30s	0.2514	23.998	6.0331	576.63	0.4615	0.4069	0.2653	0.5262	2648	94.4
16	00h02m40s	0.2515	23.998	6.0355	576.62	0.4614	0.4068	0.2652	0.5261	2649	94.4
17	00h02m50s	0.2515	23.998	6.0355	576.67	0.4612	0.4068	0.2651	0.5261	2651	94.4
18	00h03m00s	0.2515	23.998	6.0355	576.28	0.4614	0.4066	0.2653	0.526	2647	94.5
19	00h03m10s	0.2516	23.998	6.0379	576.5	0.4616	0.407	0.2653	0.5262	2648	94.4
20	00h03m20s	0.2516	23.998	6.0379	576.26	0.4614	0.4067	0.2652	0.5261	2649	94.4
21	00h03m30s	0.2516	23.998	6.0379	576.4	0.4615	0.4069	0.2652	0.5262	2649	94.5

22	00h03m40s	0.2517	23.998	6.0403	576.61	0.4613	0.4066	0.2652	0.5261	2649	94.4
23	00h03m50s	0.2517	23.998	6.0403	576.44	0.4616	0.4067	0.2654	0.5261	2646	94.5
24	00h04m00s	0.2517	23.998	6.0403	576.53	0.4613	0.4067	0.2652	0.5261	2650	94.4
25	00h04m10s	0.2518	23.998	6.0427	576.65	0.4615	0.4068	0.2653	0.5261	2648	94.5
26	00h04m20s	0.2518	23.998	6.0427	576.89	0.4614	0.4067	0.2653	0.5261	2648	94.4
27	00h04m30s	0.2518	23.998	6.0427	576.4	0.4614	0.4067	0.2652	0.5261	2649	94.5
28	00h04m40s	0.2518	23.998	6.0427	576.63	0.4617	0.4066	0.2655	0.5261	2644	94.5
29	00h04m50s	0.2519	23.998	6.0451	576.24	0.4615	0.4067	0.2653	0.5261	2647	94.4
30	00h05m00s	0.2519	23.998	6.0451	577.04	0.4614	0.4068	0.2652	0.5261	2650	94.5
31	00h05m10s	0.2519	23.998	6.0451	576.32	0.4615	0.4066	0.2654	0.526	2646	94.4
32	00h05m20s	0.2519	23.998	6.0451	576.41	0.4614	0.4066	0.2653	0.526	2647	94.5
33	00h05m30s	0.2519	23.998	6.0451	576.59	0.4616	0.4067	0.2654	0.5261	2646	94.4
34	00h05m40s	0.2519	23.998	6.0451	576.57	0.4612	0.4066	0.2652	0.526	2650	94.5
35	00h05m50s	0.252	23.998	6.0475	576.52	0.4615	0.4066	0.2654	0.5261	2647	94.4
36	00h06m00s	0.252	23.998	6.0475	577.17	0.4618	0.4068	0.2654	0.5262	2644	94.4
37	00h06m10s	0.252	23.998	6.0475	576.44	0.4616	0.4068	0.2653	0.5262	2647	94.4
38	00h06m20s	0.252	23.998	6.0475	576.7	0.4616	0.4067	0.2654	0.5261	2645	94.4
39	00h06m30s	0.252	23.998	6.0475	576.5	0.4615	0.4067	0.2654	0.5261	2646	94.4
40	00h06m40s	0.252	23.998	6.0475	576.28	0.4615	0.4064	0.2655	0.526	2644	94.4
41	00h06m50s	0.252	23.998	6.0475	576.48	0.4615	0.4066	0.2654	0.5261	2646	94.4
42	00h07m00s	0.2521	23.998	6.0499	576.47	0.4616	0.4065	0.2655	0.526	2644	94.4
43	00h07m10s	0.2521	23.998	6.0499	577.06	0.4615	0.4067	0.2653	0.5261	2647	94.4
44	00h07m20s	0.2521	23.998	6.0499	576.87	0.4613	0.4066	0.2653	0.526	2649	94.4
45	00h07m30s	0.2521	23.998	6.0499	576.57	0.4616	0.4065	0.2655	0.5261	2644	94.4
46	00h07m40s	0.2521	23.998	6.0499	576.44	0.4615	0.4067	0.2654	0.5261	2646	94.4
47	00h07m50s	0.2521	23.998	6.0499	576.25	0.4614	0.4065	0.2653	0.526	2647	94.4
48	00h08m00s	0.2521	23.998	6.0499	576.63	0.4614	0.4067	0.2653	0.5261	2648	94.5
49	00h08m10s	0.2521	23.998	6.0499	576.57	0.4615	0.4068	0.2653	0.5261	2647	94.5
50	00h08m20s	0.2521	23.998	6.0499	576.77	0.4616	0.4067	0.2654	0.5261	2645	94.4
51	00h08m30s	0.2522	23.998	6.0523	576.95	0.4615	0.4067	0.2653	0.5261	2647	94.4
52	00h08m40s	0.2522	23.998	6.0523	576.71	0.4614	0.4065	0.2653	0.526	2647	94.4

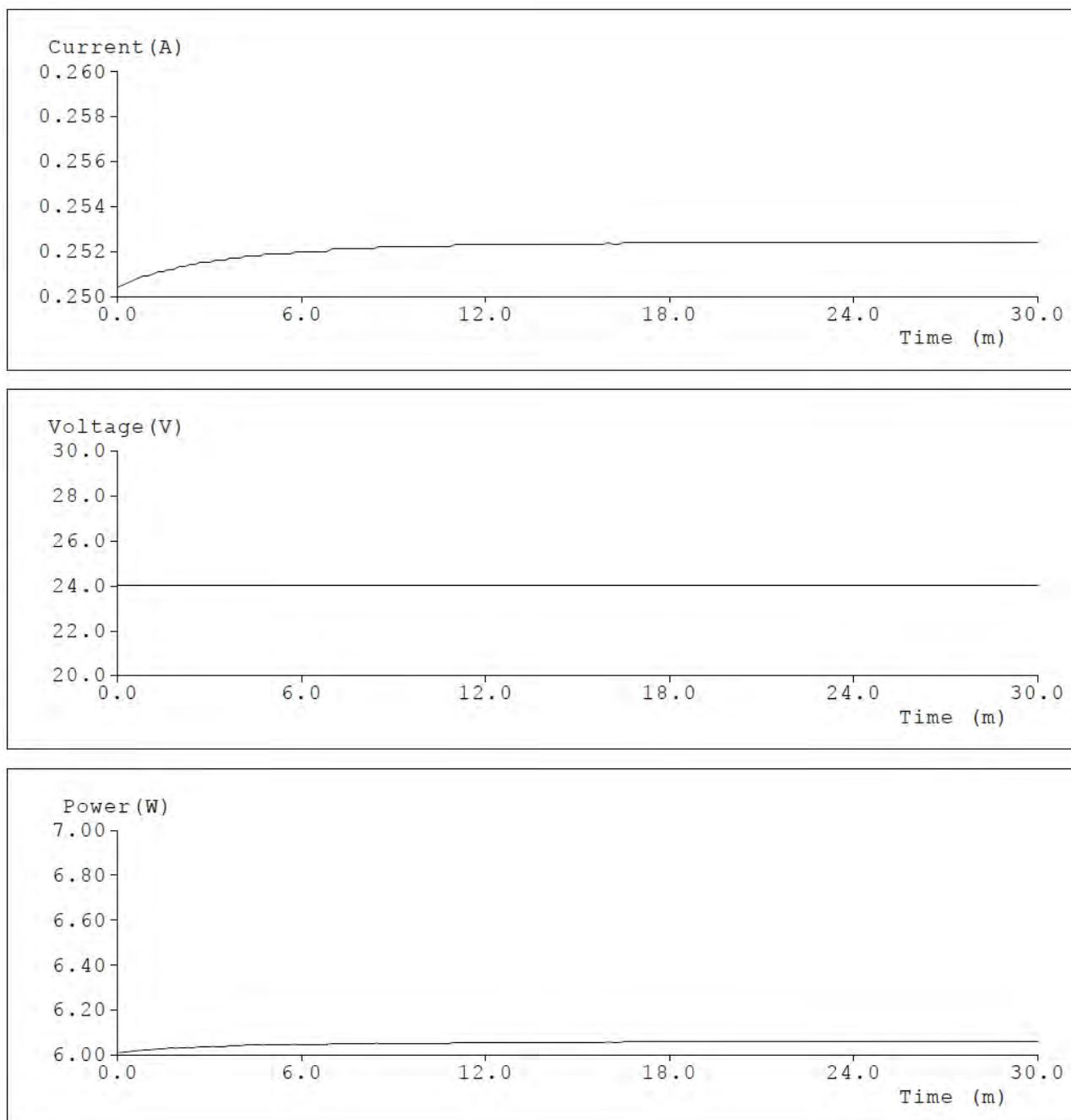
53	00h08m50s	0.2522	23.998	6.0523	576.81	0.4613	0.4067	0.2652	0.5261	2649	94.5
54	00h09m00s	0.2522	23.998	6.0523	576.39	0.4615	0.4066	0.2654	0.5261	2646	94.4
55	00h09m10s	0.2522	23.998	6.0523	576.58	0.4615	0.4066	0.2654	0.526	2646	94.4
56	00h09m20s	0.2522	23.998	6.0523	576.39	0.4615	0.4067	0.2653	0.5261	2647	94.5
57	00h09m30s	0.2522	23.998	6.0523	576.72	0.4616	0.4065	0.2654	0.5261	2645	94.4
58	00h09m40s	0.2522	23.998	6.0523	576.7	0.4615	0.4068	0.2653	0.5261	2648	94.5
59	00h09m50s	0.2522	23.998	6.0523	576.8	0.4614	0.4067	0.2653	0.5261	2648	94.4
60	00h10m00s	0.2522	23.998	6.0523	576.81	0.4616	0.4067	0.2654	0.5261	2645	94.4
61	00h10m10s	0.2522	23.998	6.0523	576.33	0.4614	0.4065	0.2653	0.526	2647	94.5
62	00h10m20s	0.2522	23.998	6.0523	577.03	0.4615	0.4066	0.2654	0.5261	2647	94.5
63	00h10m30s	0.2522	23.998	6.0523	576.78	0.4615	0.4066	0.2654	0.5261	2646	94.4
64	00h10m40s	0.2522	23.998	6.0523	576.8	0.4613	0.4064	0.2653	0.526	2647	94.4
65	00h10m50s	0.2522	23.998	6.0523	576.88	0.4617	0.4068	0.2654	0.5262	2646	94.4
66	00h11m00s	0.2523	23.998	6.0547	576.61	0.4616	0.4067	0.2654	0.5261	2646	94.5
67	00h11m10s	0.2523	23.998	6.0547	576.8	0.4616	0.4068	0.2653	0.5262	2646	94.4
68	00h11m20s	0.2523	23.998	6.0547	577.06	0.4615	0.4066	0.2653	0.5261	2647	94.4
69	00h11m30s	0.2523	23.998	6.0547	576.66	0.4616	0.4066	0.2654	0.5261	2645	94.5
70	00h11m40s	0.2523	23.998	6.0547	576.74	0.4615	0.4066	0.2654	0.5261	2646	94.4
71	00h11m50s	0.2523	23.998	6.0547	576.8	0.4615	0.4066	0.2654	0.5261	2646	94.5
72	00h12m00s	0.2523	23.998	6.0547	576.59	0.4616	0.4065	0.2655	0.5261	2644	94.4
73	00h12m10s	0.2523	23.998	6.0547	577.06	0.4617	0.4067	0.2655	0.5262	2644	94.4
74	00h12m20s	0.2523	23.998	6.0547	576.94	0.4616	0.4065	0.2655	0.526	2644	94.4
75	00h12m30s	0.2523	23.998	6.0547	577.11	0.4616	0.4067	0.2654	0.5261	2645	94.4
76	00h12m40s	0.2523	23.998	6.0547	577.13	0.4615	0.4067	0.2653	0.5261	2647	94.4
77	00h12m50s	0.2523	23.998	6.0547	577.12	0.4614	0.4066	0.2653	0.5261	2647	94.4
78	00h13m00s	0.2523	23.998	6.0547	576.64	0.4616	0.4066	0.2655	0.5261	2644	94.5
79	00h13m10s	0.2523	23.998	6.0547	576.93	0.4616	0.4067	0.2654	0.5261	2646	94.5
80	00h13m20s	0.2523	23.998	6.0547	576.9	0.4616	0.4067	0.2654	0.5261	2645	94.4
81	00h13m30s	0.2523	23.998	6.0547	577.03	0.4615	0.4066	0.2654	0.5261	2646	94.4
82	00h13m40s	0.2523	23.998	6.0547	577.03	0.4617	0.4067	0.2655	0.5261	2644	94.4
83	00h13m50s	0.2523	23.998	6.0547	576.57	0.4617	0.4068	0.2654	0.5262	2645	94.4

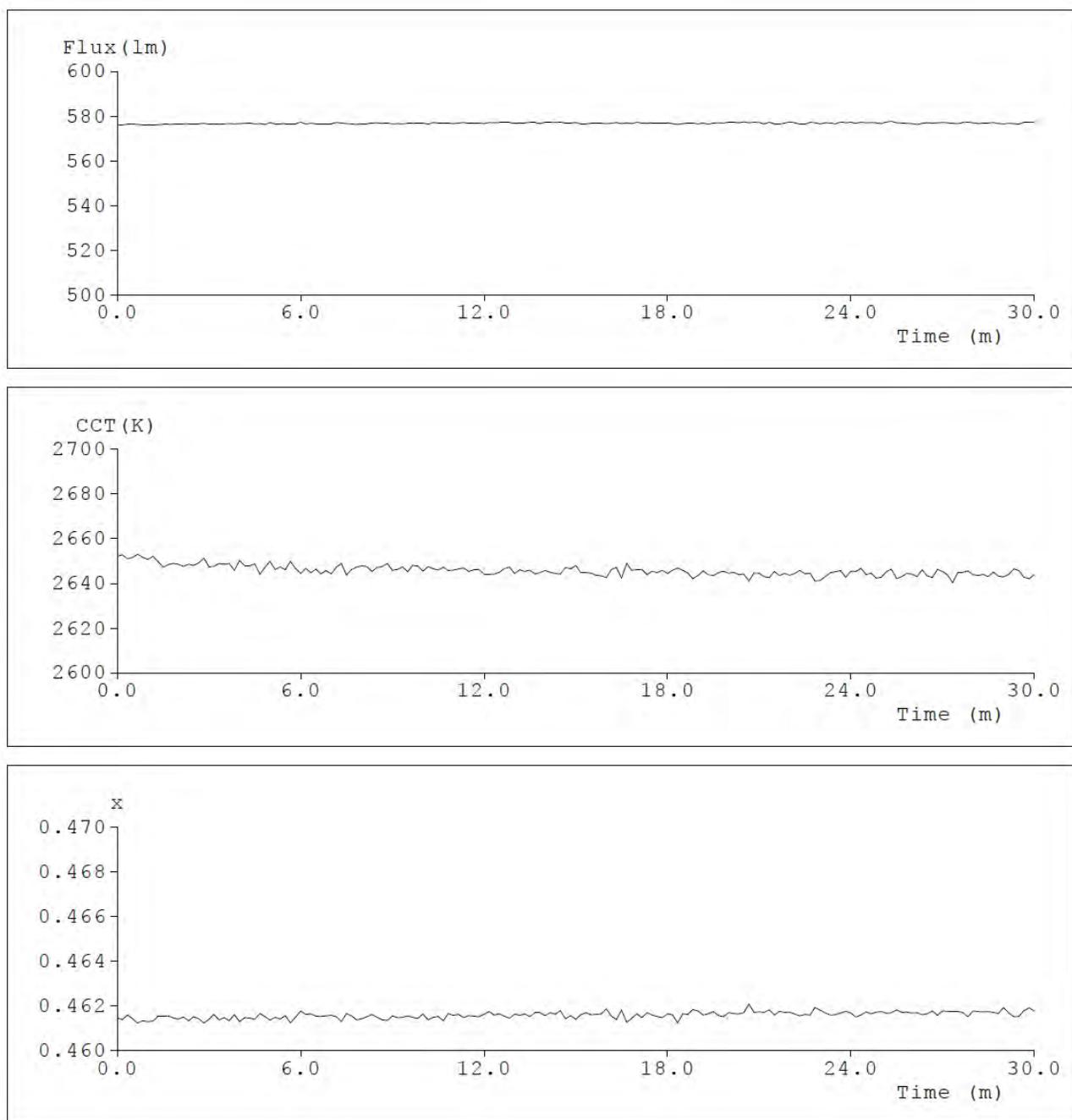
84	00h14m00s	0.2523	23.998	6.0547	577.19	0.4616	0.4066	0.2654	0.5261	2646	94.4
85	00h14m10s	0.2523	23.998	6.0547	577.24	0.4617	0.4068	0.2654	0.5262	2645	94.4
86	00h14m20s	0.2523	23.998	6.0547	577.07	0.4616	0.4066	0.2655	0.5261	2644	94.4
87	00h14m30s	0.2523	23.998	6.0547	577.18	0.4618	0.4068	0.2655	0.5262	2644	94.4
88	00h14m40s	0.2523	23.998	6.0547	576.8	0.4614	0.4066	0.2653	0.526	2647	94.4
89	00h14m50s	0.2523	23.998	6.0547	576.84	0.4616	0.4067	0.2654	0.5261	2646	94.4
90	00h15m00s	0.2523	23.998	6.0547	577.13	0.4614	0.4066	0.2653	0.5261	2648	94.4
91	00h15m10s	0.2523	23.998	6.0547	576.41	0.4616	0.4066	0.2654	0.5261	2645	94.4
92	00h15m20s	0.2523	23.998	6.0547	576.43	0.4617	0.4067	0.2654	0.5261	2645	94.4
93	00h15m30s	0.2523	23.998	6.0547	576.65	0.4616	0.4066	0.2655	0.5261	2645	94.4
94	00h15m40s	0.2523	23.998	6.0547	576.73	0.4616	0.4065	0.2655	0.526	2644	94.3
95	00h15m50s	0.2523	23.998	6.0547	576.67	0.4616	0.4065	0.2655	0.526	2643	94.4
96	00h16m00s	0.2524	23.998	6.0571	576.63	0.4619	0.4067	0.2655	0.5262	2643	94.4
97	00h16m10s	0.2523	23.998	6.0547	576.76	0.4615	0.4067	0.2654	0.5261	2646	94.4
98	00h16m20s	0.2523	23.998	6.0547	577.08	0.4614	0.4065	0.2653	0.526	2647	94.4
99	00h16m30s	0.2524	23.998	6.0571	576.64	0.4618	0.4066	0.2656	0.5261	2642	94.4
100	00h16m40s	0.2524	23.998	6.0571	576.99	0.4613	0.4065	0.2653	0.526	2649	94.4
101	00h16m50s	0.2524	23.998	6.0571	576.58	0.4614	0.4064	0.2654	0.526	2646	94.4
102	00h17m00s	0.2524	23.998	6.0571	577.25	0.4616	0.4068	0.2654	0.5262	2646	94.4
103	00h17m10s	0.2524	23.998	6.0571	576.87	0.4615	0.4065	0.2654	0.526	2646	94.4
104	00h17m20s	0.2524	23.998	6.0571	576.76	0.4617	0.4066	0.2655	0.5261	2644	94.4
105	00h17m30s	0.2524	23.998	6.0571	576.9	0.4616	0.4067	0.2654	0.5261	2645	94.4
106	00h17m40s	0.2524	23.998	6.0571	576.96	0.4615	0.4065	0.2655	0.526	2645	94.4
107	00h17m50s	0.2524	23.998	6.0571	577.01	0.4615	0.4065	0.2654	0.526	2646	94.4
108	00h18m00s	0.2524	23.998	6.0571	576.91	0.4616	0.4066	0.2655	0.5261	2644	94.4
109	00h18m10s	0.2524	23.998	6.0571	576.55	0.4616	0.4067	0.2654	0.5261	2646	94.4
110	00h18m20s	0.2524	23.998	6.0571	576.13	0.4612	0.4062	0.2654	0.5259	2647	94.4
111	00h18m30s	0.2524	23.998	6.0571	576.61	0.4616	0.4068	0.2654	0.5262	2646	94.4
112	00h18m40s	0.2524	23.998	6.0571	576.86	0.4616	0.4066	0.2654	0.5261	2645	94.4
113	00h18m50s	0.2524	23.998	6.0571	576.85	0.4618	0.4066	0.2656	0.5261	2642	94.4
114	00h19m00s	0.2524	23.998	6.0571	576.48	0.4618	0.4067	0.2655	0.5262	2644	94.4

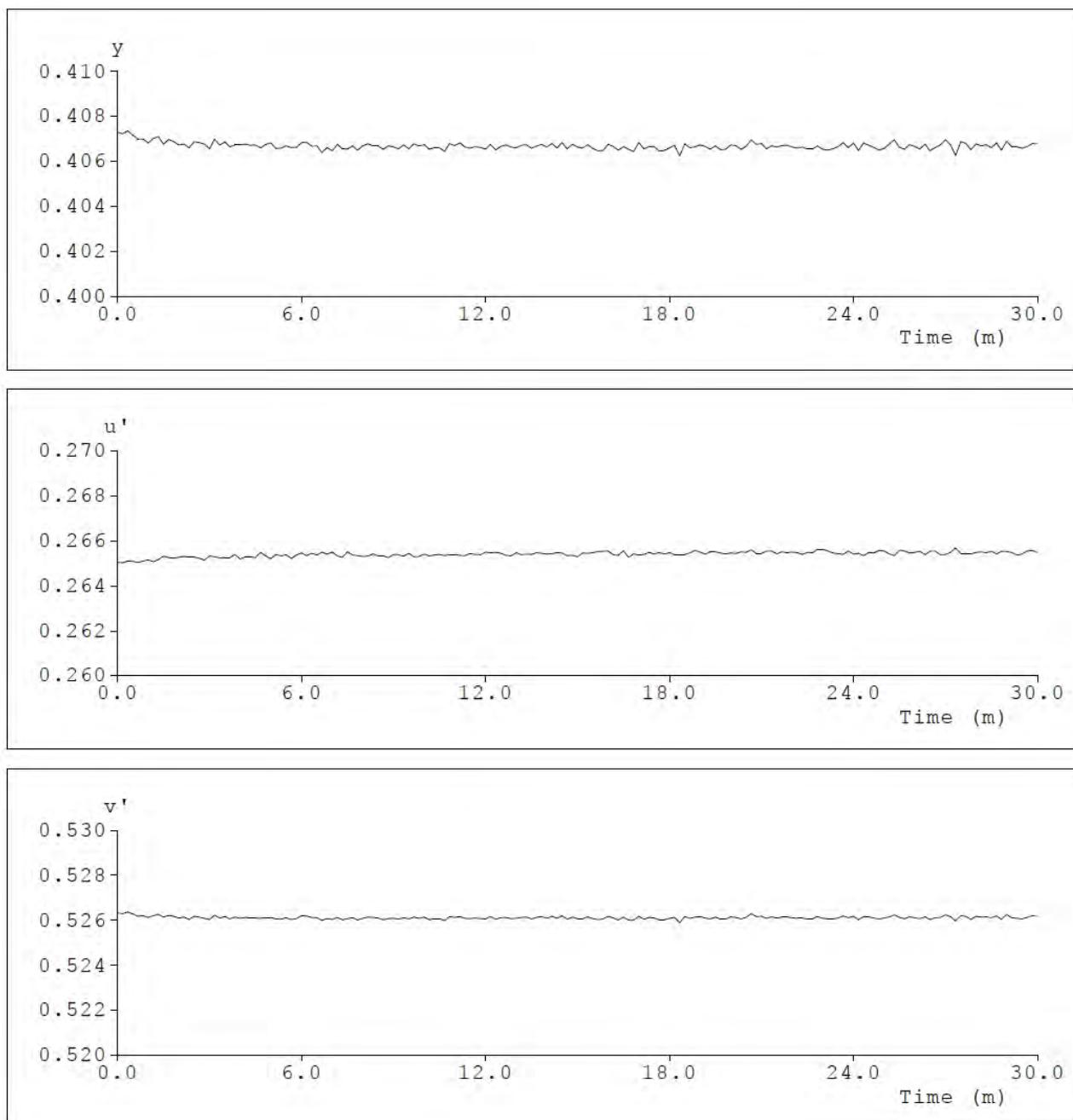
115	00h19m10s	0.2524	23.998	6.0571	576.8	0.4616	0.4067	0.2654	0.5261	2646	94.4
116	00h19m20s	0.2524	23.998	6.0571	576.35	0.4616	0.4065	0.2655	0.5261	2644	94.4
117	00h19m30s	0.2524	23.998	6.0571	576.86	0.4617	0.4067	0.2655	0.5261	2644	94.4
118	00h19m40s	0.2524	23.998	6.0571	576.94	0.4616	0.4065	0.2654	0.526	2645	94.4
119	00h19m50s	0.2524	23.998	6.0571	576.85	0.4615	0.4065	0.2654	0.526	2645	94.4
120	00h20m00s	0.2524	23.998	6.0571	577.19	0.4617	0.4067	0.2654	0.5261	2645	94.4
121	00h20m10s	0.2524	23.998	6.0571	577.28	0.4616	0.4067	0.2654	0.5261	2645	94.4
122	00h20m20s	0.2524	23.998	6.0571	576.9	0.4616	0.4065	0.2655	0.5261	2644	94.4
123	00h20m30s	0.2524	23.998	6.0571	577.33	0.4617	0.4067	0.2655	0.5261	2644	94.4
124	00h20m40s	0.2524	23.998	6.0571	576.93	0.4621	0.407	0.2656	0.5263	2641	94.5
125	00h20m50s	0.2524	23.998	6.0571	577.2	0.4617	0.4067	0.2654	0.5261	2645	94.4
126	00h21m00s	0.2524	23.998	6.0571	577.14	0.4617	0.4068	0.2654	0.5262	2645	94.4
127	00h21m10s	0.2524	23.998	6.0571	576.47	0.4617	0.4066	0.2655	0.5261	2643	94.4
128	00h21m20s	0.2524	23.998	6.0571	577.25	0.4618	0.4067	0.2655	0.5261	2643	94.4
129	00h21m30s	0.2524	23.998	6.0571	576.43	0.4616	0.4066	0.2654	0.5261	2645	94.5
130	00h21m40s	0.2524	23.998	6.0571	576.27	0.4617	0.4067	0.2655	0.5261	2644	94.4
131	00h21m50s	0.2524	23.998	6.0571	576.79	0.4617	0.4067	0.2655	0.5261	2644	94.5
132	00h22m00s	0.2524	23.998	6.0571	577.37	0.4617	0.4066	0.2655	0.5261	2644	94.4
133	00h22m10s	0.2524	23.998	6.0571	576.94	0.4616	0.4066	0.2655	0.5261	2644	94.4
134	00h22m20s	0.2524	23.998	6.0571	576.37	0.4615	0.4066	0.2654	0.5261	2646	94.4
135	00h22m30s	0.2524	23.998	6.0571	576.3	0.4616	0.4065	0.2655	0.5261	2644	94.4
136	00h22m40s	0.2524	23.998	6.0571	577.18	0.4616	0.4065	0.2655	0.5261	2645	94.4
137	00h22m50s	0.2524	23.998	6.0571	577	0.4619	0.4067	0.2656	0.5262	2641	94.4
138	00h23m00s	0.2524	23.998	6.0571	576.48	0.4618	0.4065	0.2656	0.5261	2641	94.5
139	00h23m10s	0.2524	23.998	6.0571	576.92	0.4617	0.4065	0.2655	0.526	2643	94.4
140	00h23m20s	0.2524	23.998	6.0571	576.85	0.4616	0.4066	0.2654	0.5261	2645	94.4
141	00h23m30s	0.2524	23.998	6.0571	576.49	0.4616	0.4066	0.2654	0.5261	2645	94.4
142	00h23m40s	0.2524	23.998	6.0571	577.31	0.4617	0.4068	0.2654	0.5262	2646	94.4
143	00h23m50s	0.2524	23.998	6.0571	576.99	0.4618	0.4066	0.2655	0.5261	2643	94.4
144	00h24m00s	0.2524	23.998	6.0571	577.22	0.4617	0.4068	0.2654	0.5262	2645	94.4
145	00h24m10s	0.2524	23.998	6.0571	576.68	0.4615	0.4065	0.2654	0.526	2645	94.5

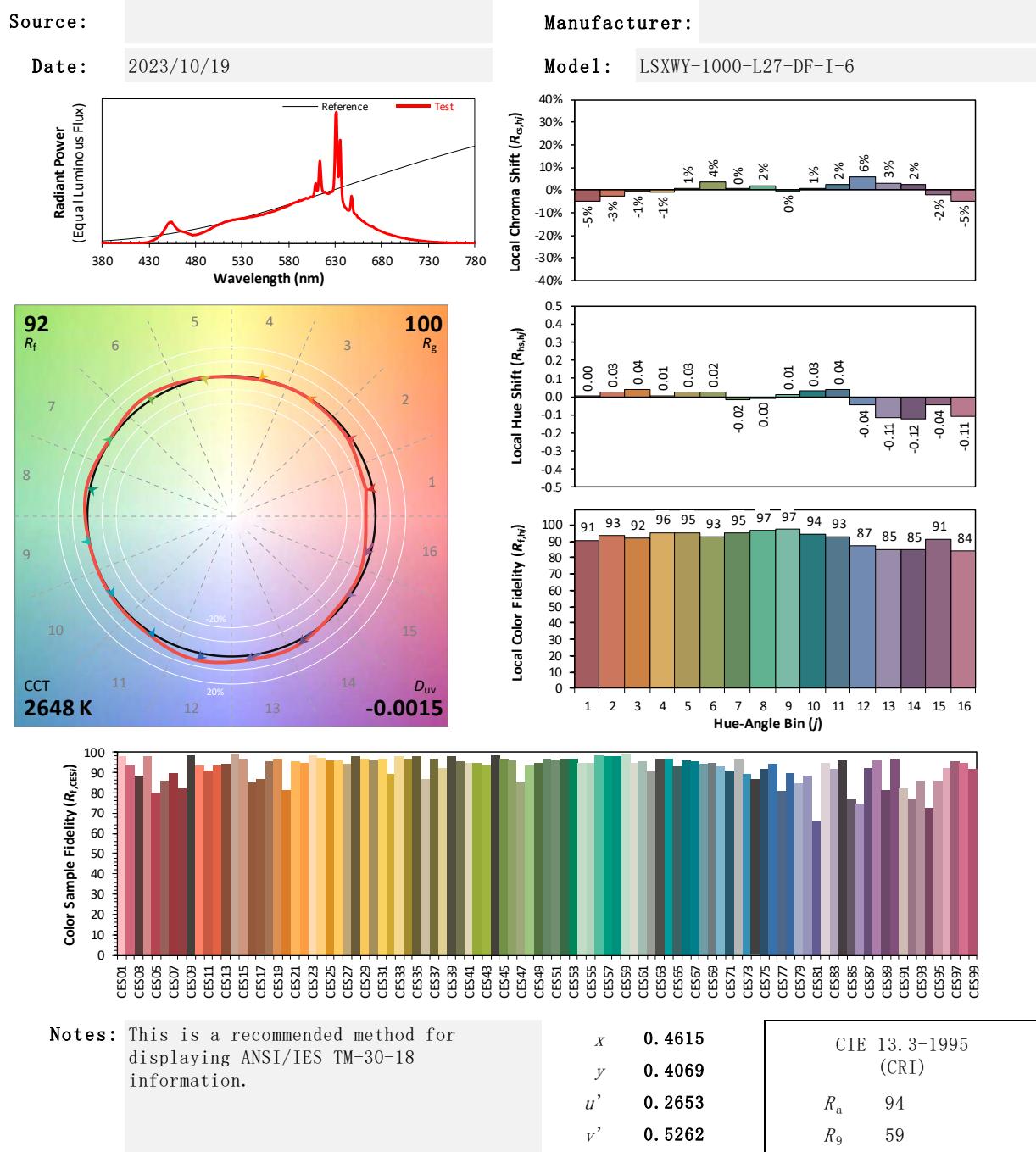
146	00h24m20s	0.2524	23.998	6.0571	577.26	0.4616	0.4068	0.2653	0.5262	2647	94.4
147	00h24m30s	0.2524	23.998	6.0571	576.98	0.4617	0.4067	0.2655	0.5261	2644	94.4
148	00h24m40s	0.2524	23.998	6.0571	577.11	0.4616	0.4066	0.2655	0.5261	2645	94.4
149	00h24m50s	0.2524	23.998	6.0571	576.98	0.4617	0.4065	0.2656	0.5261	2642	94.3
150	00h25m00s	0.2524	23.998	6.0571	576.6	0.4617	0.4066	0.2655	0.5261	2643	94.4
151	00h25m10s	0.2524	23.998	6.0571	577.28	0.4617	0.4068	0.2654	0.5261	2645	94.4
152	00h25m20s	0.2524	23.998	6.0571	577.63	0.4617	0.407	0.2653	0.5262	2646	94.4
153	00h25m30s	0.2524	23.998	6.0571	576.93	0.4618	0.4066	0.2656	0.5261	2642	94.4
154	00h25m40s	0.2524	23.998	6.0571	576.85	0.4617	0.4065	0.2655	0.5261	2643	94.4
155	00h25m50s	0.2524	23.998	6.0571	576.73	0.4617	0.4067	0.2655	0.5261	2644	94.4
156	00h26m00s	0.2524	23.998	6.0571	576.62	0.4617	0.4067	0.2655	0.5261	2644	94.4
157	00h26m10s	0.2524	23.998	6.0571	576.19	0.4617	0.4065	0.2655	0.5261	2643	94.4
158	00h26m20s	0.2524	23.998	6.0571	576.68	0.4616	0.4068	0.2654	0.5261	2646	94.5
159	00h26m30s	0.2524	23.998	6.0571	576.92	0.4616	0.4065	0.2655	0.526	2643	94.4
160	00h26m40s	0.2524	23.998	6.0571	576.81	0.4618	0.4066	0.2655	0.5261	2643	94.4
161	00h26m50s	0.2524	23.998	6.0571	577.01	0.4616	0.4067	0.2654	0.5261	2646	94.4
162	00h27m00s	0.2524	23.998	6.0571	577.13	0.4618	0.4069	0.2654	0.5262	2645	94.4
163	00h27m10s	0.2524	23.998	6.0571	576.99	0.4618	0.4067	0.2655	0.5262	2644	94.4
164	00h27m20s	0.2524	23.998	6.0571	576.66	0.4617	0.4063	0.2657	0.526	2640	94.4
165	00h27m30s	0.2524	23.998	6.0571	576.53	0.4617	0.4069	0.2654	0.5262	2645	94.4
166	00h27m40s	0.2524	23.998	6.0571	577.1	0.4617	0.4068	0.2654	0.5262	2645	94.4
167	00h27m50s	0.2524	23.998	6.0571	577.17	0.4615	0.4065	0.2654	0.526	2646	94.4
168	00h28m00s	0.2524	23.998	6.0571	576.96	0.4618	0.4068	0.2655	0.5262	2644	94.4
169	00h28m10s	0.2524	23.998	6.0571	576.55	0.4617	0.4067	0.2655	0.5261	2644	94.5
170	00h28m20s	0.2524	23.998	6.0571	576.83	0.4617	0.4067	0.2655	0.5261	2644	94.4
171	00h28m30s	0.2524	23.998	6.0571	576.87	0.4617	0.4066	0.2655	0.5261	2643	94.4
172	00h28m40s	0.2524	23.998	6.0571	577.11	0.4617	0.4068	0.2654	0.5262	2645	94.4
173	00h28m50s	0.2524	23.998	6.0571	576.55	0.4616	0.4065	0.2655	0.526	2643	94.4
174	00h29m00s	0.2524	23.998	6.0571	576.45	0.4619	0.4069	0.2655	0.5262	2643	94.4
175	00h29m10s	0.2524	23.998	6.0571	576.75	0.4617	0.4066	0.2655	0.5261	2644	94.5
176	00h29m20s	0.2524	23.998	6.0571	576.6	0.4615	0.4066	0.2654	0.5261	2646	94.4

177	00h29m30s	0.2524	23.998	6.0571	576.32	0.4615	0.4066	0.2654	0.5261	2646	94.5
178	00h29m40s	0.2524	23.998	6.0571	577.05	0.4618	0.4066	0.2655	0.5261	2643	94.4
179	00h29m50s	0.2524	23.998	6.0571	577.11	0.4619	0.4068	0.2656	0.5262	2642	94.4
180	00h30m00s	0.2524	23.998	6.0571	577.3	0.4618	0.4068	0.2655	0.5262	2644	94.4

Test curves

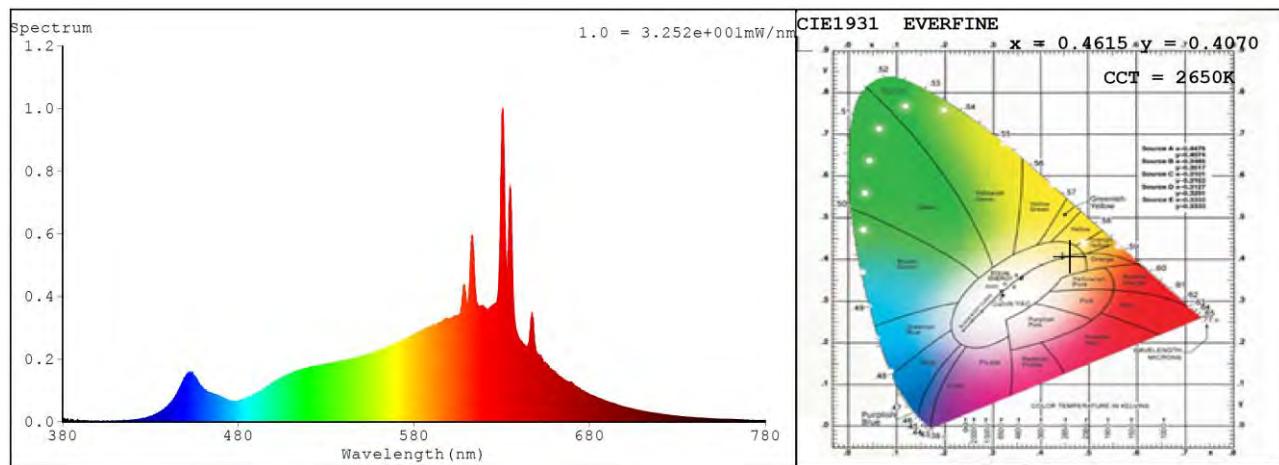




9.2 ANSI/IES TM-30-18 Color Rendition Report*ANSI/IES TM-30-18 Color Rendition Report**

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

9.3 Relative Spectral Power Distribution



nm	mW								
380	0.0066	414	0.0025	448	0.1203	482	0.0697	516	0.1664
381	0.0096	415	0.0054	449	0.134	483	0.071	517	0.1689
382	0	416	0.0032	450	0.1445	484	0.0738	518	0.1689
383	0.0094	417	0.0041	451	0.1505	485	0.0757	519	0.1717
384	0.0031	418	0.0048	452	0.1569	486	0.0784	520	0.1744
385	0.0024	419	0.004	453	0.1554	487	0.0813	521	0.1746
386	0.0047	420	0.0063	454	0.1589	488	0.083	522	0.1722
387	0.0016	421	0.0068	455	0.1469	489	0.0866	523	0.1771
388	0	422	0.0072	456	0.1393	490	0.0887	524	0.1769
389	0	423	0.0076	457	0.1309	491	0.0925	525	0.1781
390	0.0017	424	0.0085	458	0.1208	492	0.0955	526	0.1793
391	0.0019	425	0.0095	459	0.1151	493	0.0978	527	0.1809
392	0.0025	426	0.0112	460	0.1073	494	0.1036	528	0.1807
393	0	427	0.0108	461	0.1024	495	0.1054	529	0.1838
394	0.004	428	0.0129	462	0.0976	496	0.1104	530	0.185
395	0.0019	429	0.0151	463	0.0944	497	0.1135	531	0.1841
396	0.0028	430	0.0161	464	0.0922	498	0.1182	532	0.1852
397	0.0025	431	0.0191	465	0.0908	499	0.1221	533	0.1862
398	0.0026	432	0.0219	466	0.0886	500	0.1251	534	0.1866
399	0.0006	433	0.0231	467	0.0871	501	0.1281	535	0.1889
400	0	434	0.027	468	0.0849	502	0.1313	536	0.1903
401	0.0018	435	0.0284	469	0.0844	503	0.1342	537	0.1926
402	0.0016	436	0.0336	470	0.0793	504	0.1361	538	0.1929
403	0.0027	437	0.0374	471	0.0763	505	0.1395	539	0.1945
404	0.0018	438	0.0397	472	0.0755	506	0.1439	540	0.1935
405	0.0013	439	0.0467	473	0.0716	507	0.1457	541	0.1953
406	0.0025	440	0.05	474	0.0703	508	0.148	542	0.1965
407	0.0004	441	0.0589	475	0.0677	509	0.1519	543	0.1971
408	0.0032	442	0.063	476	0.0642	510	0.1545	544	0.2007
409	0.0032	443	0.0711	477	0.064	511	0.1575	545	0.2006
410	0.0022	444	0.0797	478	0.0662	512	0.1595	546	0.2017
411	0.002	445	0.0875	479	0.0653	513	0.1608	547	0.2034
412	0.0029	446	0.1014	480	0.0665	514	0.1618	548	0.2061
413	0.0027	447	0.1109	481	0.0676	515	0.1647	549	0.2066

nm	mW								
550	0.2085	599	0.3274	648	0.3097	697	0.0522	746	0.0109
551	0.2107	600	0.3247	649	0.2435	698	0.05	747	0.0106
552	0.2084	601	0.3286	650	0.2192	699	0.049	748	0.01
553	0.2127	602	0.3313	651	0.2139	700	0.0463	749	0.0098
554	0.215	603	0.3377	652	0.2114	701	0.0453	750	0.0095
555	0.2162	604	0.3374	653	0.2002	702	0.0439	751	0.0092
556	0.2181	605	0.337	654	0.19	703	0.0435	752	0.0092
557	0.2211	606	0.3447	655	0.1876	704	0.0413	753	0.0093
558	0.2226	607	0.3664	656	0.1824	705	0.0405	754	0.0083
559	0.2256	608	0.4213	657	0.1748	706	0.039	755	0.008
560	0.2285	609	0.4325	658	0.1684	707	0.0382	756	0.0082
561	0.2294	610	0.3807	659	0.1641	708	0.0365	757	0.0077
562	0.2322	611	0.3885	660	0.1605	709	0.0348	758	0.0078
563	0.2335	612	0.4863	661	0.1561	710	0.0342	759	0.0072
564	0.2346	613	0.5933	662	0.1502	711	0.032	760	0.007
565	0.2368	614	0.5266	663	0.1449	712	0.0321	761	0.0074
566	0.2403	615	0.4201	664	0.1406	713	0.0314	762	0.0075
567	0.2428	616	0.3804	665	0.1366	714	0.0302	763	0.0066
568	0.2453	617	0.3696	666	0.1324	715	0.0289	764	0.0068
569	0.2484	618	0.3689	667	0.1296	716	0.0284	765	0.0061
570	0.2492	619	0.3722	668	0.1263	717	0.0276	766	0.0056
571	0.2545	620	0.3656	669	0.126	718	0.0272	767	0.0059
572	0.2558	621	0.3616	670	0.1245	719	0.0262	768	0.0054
573	0.2571	622	0.3594	671	0.1192	720	0.0246	769	0.0052
574	0.2623	623	0.3617	672	0.1134	721	0.0242	770	0.0058
575	0.2637	624	0.3663	673	0.1102	722	0.0233	771	0.005
576	0.2662	625	0.3738	674	0.1069	723	0.0222	772	0.0052
577	0.2663	626	0.3724	675	0.1018	724	0.0219	773	0.0055
578	0.2728	627	0.3799	676	0.0989	725	0.0214	774	0.0045
579	0.273	628	0.4173	677	0.0965	726	0.0208	775	0.005
580	0.2775	629	0.5851	678	0.0939	727	0.0198	776	0.0047
581	0.2794	630	0.9182	679	0.0915	728	0.0188	777	0.0045
582	0.2838	631	0.9411	680	0.0881	729	0.0184	778	0.0044
583	0.2855	632	0.6045	681	0.085	730	0.0179	779	0.0042
584	0.2923	633	0.4794	682	0.0826	731	0.0171	780	0.0042
585	0.2931	634	0.6293	683	0.08	732	0.0168		
586	0.2964	635	0.7412	684	0.0772	733	0.0161		
587	0.2977	636	0.5094	685	0.0742	734	0.0156		
588	0.3004	637	0.3476	686	0.0718	735	0.0152		
589	0.3014	638	0.2979	687	0.0718	736	0.0145		
590	0.3035	639	0.2781	688	0.0688	737	0.0142		
591	0.3121	640	0.2651	689	0.0673	738	0.0143		
592	0.3088	641	0.2586	690	0.0652	739	0.0141		
593	0.311	642	0.2476	691	0.0627	740	0.0129		
594	0.3135	643	0.2427	692	0.0602	741	0.0125		
595	0.3156	644	0.2401	693	0.059	742	0.0119		
596	0.32	645	0.244	694	0.0584	743	0.0117		
597	0.3248	646	0.2802	695	0.0551	744	0.0116		
598	0.3291	647	0.3427	696	0.0532	745	0.0116		

10. Goniophotometer Test results for LSXWY-1000-L27-DF-I-6

10.1 Test Data

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

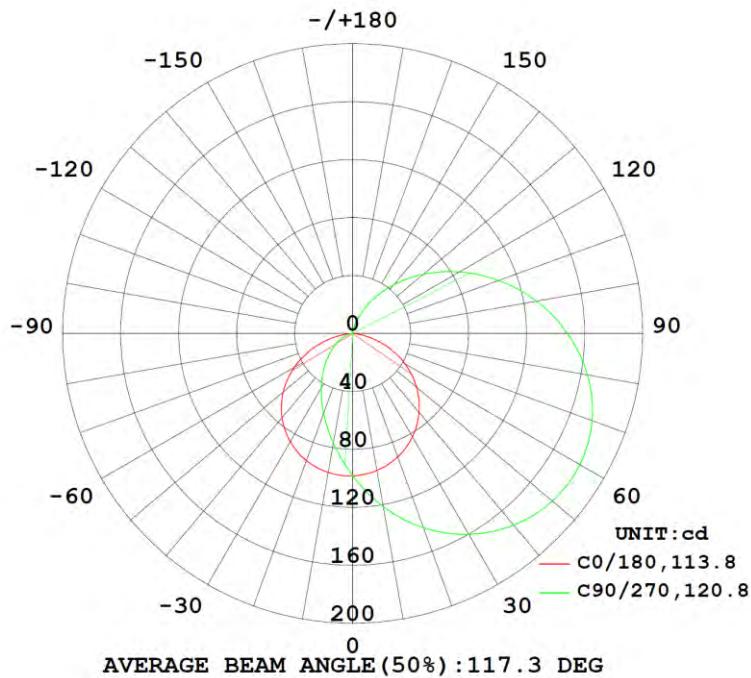
Electrical Measurement

Input Voltage (V)	Frequency (Hz)	Input Current(A)	Power Factor	Power(W)
24.001	--	0.26195	1.0000	6.287

Optical Measurement

Luminous Flux (lm)	Efficacy(lm/W)	I_{max} (cd)	η up (%)	η down (%)
610.151	97.05	181.3	24.2	75.8

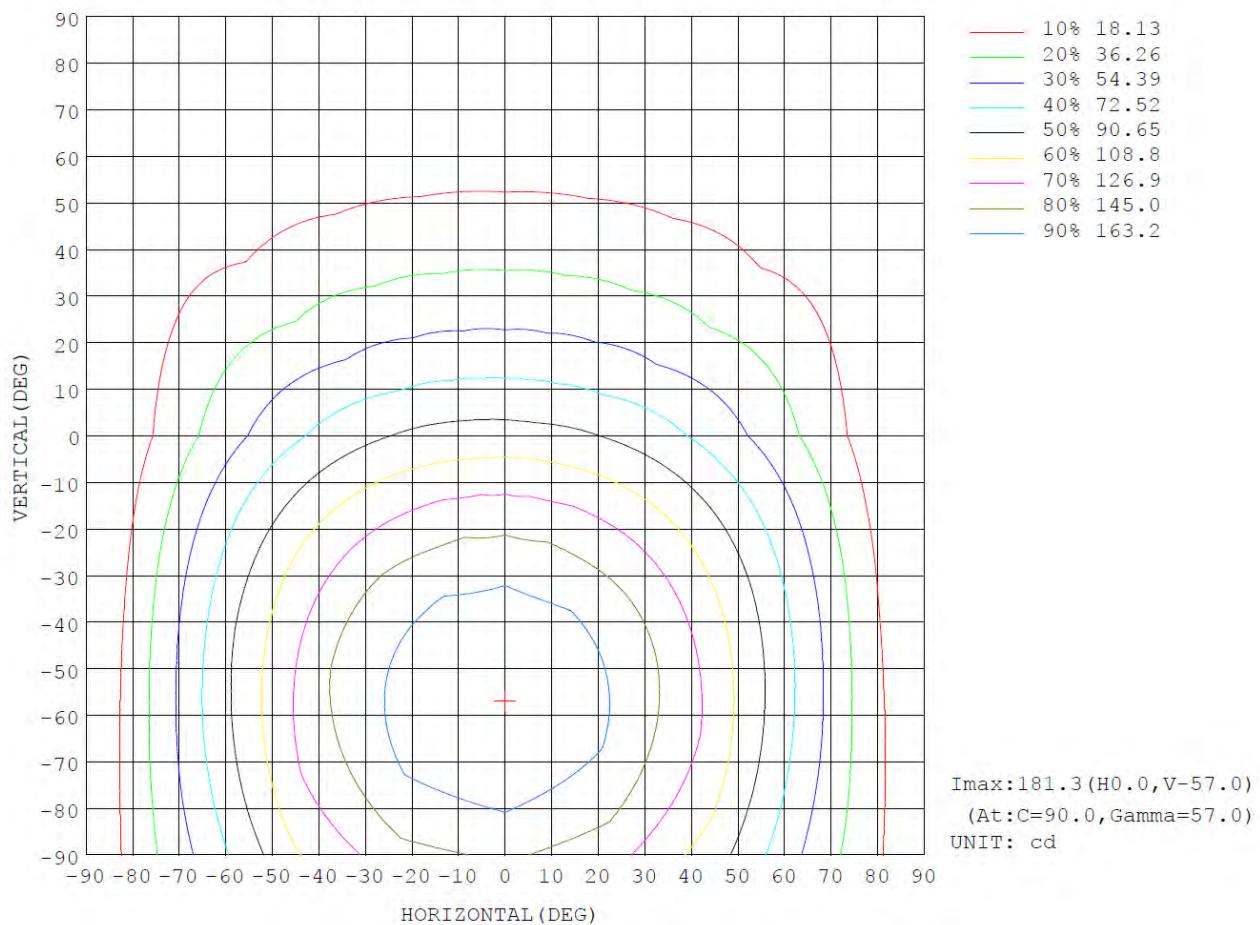
10.2 Luminous Intensity Distribution



10.3 Zonal Flux Diagram

γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	%lum,lamp
10	96.00	113.1	121.3	114.3	97.40	82.53	76.94	81.72	0- 10	9.362	9.362	1.53,1.53
20	90.68	125.7	142.5	128.3	93.38	66.96	58.78	65.73	10- 20	27.56	36.93	6.05,6.05
30	82.41	134.8	160.0	139.1	86.22	52.15	43.52	50.78	20- 30	44.03	80.96	13.3,13.3
40	71.28	139.9	172.7	145.8	75.89	38.28	30.69	37.04	30- 40	57.41	138.4	22.7,22.7
50	57.52	140.6	179.9	147.8	62.54	25.78	20.17	24.76	40- 50	66.49	204.9	33.6,33.6
60	41.63	136.6	180.9	145.0	46.49	15.32	12.19	14.71	50- 60	70.51	275.4	45.1,45.1
70	24.22	127.9	175.7	136.9	28.61	7.587	6.430	7.279	60- 70	69.31	344.7	56.5,56.5
80	7.194	114.7	164.4	123.9	10.45	2.670	2.554	2.569	70- 80	63.40	408.1	66.9,66.9
90	0.5342	98.52	148.2	107.3	0.4032	0.2725	0.3251	0.2447	80- 90	54.52	462.6	75.8,75.8
100	0.6896	81.33	128.8	89.31	0.3567	0.2039	0.2660	0.2031	90-100	45.59	508.2	83.3,83.3
110	0.6145	64.42	107.2	71.22	0.5285	0.1888	0.2378	0.1869	100-110	36.36	544.6	89.2,89.2
120	0.5353	48.90	85.06	54.37	0.5071	0.1736	0.2030	0.1882	110-120	27.03	571.6	93.7,93.7
130	0.4472	35.17	63.71	39.33	0.4279	0.1974	0.2029	0.2235	120-130	18.43	590.0	96.7,96.7
140	0.3587	22.02	44.02	25.70	0.3643	0.2460	0.2304	0.2609	130-140	11.28	601.3	98.6,98.6
150	0.2781	12.38	25.62	14.83	0.2939	0.2708	0.2565	0.2636	140-150	5.832	607.1	99.5,99.5
160	0.2306	5.913	12.07	6.599	0.2492	0.2453	0.2582	0.2484	150-160	2.335	609.5	99.9,99.9
170	0.2508	1.833	3.617	2.026	0.2579	0.2590	0.2304	0.2340	160-170	0.6170	610.1	100,100
180	0.2618	0.2608	0.1406	0.2000	0.2592	0.2595	0.2495	0.2161	170-180	0.0613	610.2	100,100
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

10.4 Isocandela Diagram



10.5 Luminous Distribution Intensity Data

Table--1

γ (DEG)	C (DEG)	UNIT: cd															
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	98.2	98.2	98.2	98.2	98.2	98.2	98.2	98.2	98.2	98.2	98.2	98.2	98.2	98.2	98.2	98.2	98.2
5	97.5	102	106	109	110	109	106	103	98.2	93.9	90.4	88.1	87.2	87.8	89.9	93.2	
10	96.0	105	113	119	121	120	114	106	97.4	89.0	82.5	78.4	76.9	78.0	81.7	87.8	
15	93.7	107	120	129	132	130	122	109	95.8	83.6	74.7	69.3	67.4	68.8	73.7	82.0	
20	90.7	109	126	138	143	139	128	112	93.4	77.7	67.0	60.9	58.8	60.3	65.7	75.8	
25	86.9	110	131	146	152	148	134	113	90.2	71.4	59.4	53.0	50.8	52.4	58.1	69.2	
30	82.4	109	135	153	160	155	139	114	86.2	64.7	52.2	45.7	43.5	45.1	50.8	62.4	
35	77.2	108	138	159	167	162	143	114	81.4	57.8	45.1	38.8	36.8	38.3	43.7	55.4	
40	71.3	107	140	163	173	167	146	113	75.9	50.7	38.3	32.5	30.7	32.0	37.0	48.3	
45	64.7	104	141	167	177	170	147	111	69.6	43.4	31.8	26.7	25.1	26.3	30.7	41.2	
50	57.5	100	141	169	180	173	148	108	62.5	36.2	25.8	21.4	20.2	21.1	24.8	34.2	
55	49.8	95.8	139	169	181	174	147	104	54.8	29.2	20.2	16.8	15.9	16.6	19.4	27.4	
60	41.6	90.5	137	168	181	173	145	98.9	46.5	22.3	15.3	12.9	12.2	12.7	14.7	20.9	
65	33.0	84.3	133	166	179	171	142	93.0	37.7	16.1	11.1	9.48	9.05	9.34	10.6	15.0	
70	24.2	77.4	128	162	176	167	137	86.3	28.6	10.6	7.59	6.68	6.43	6.58	7.28	9.92	
75	15.4	69.8	122	157	171	162	131	78.7	19.3	6.26	4.79	4.38	4.27	4.33	4.60	5.80	
80	7.19	61.6	115	150	164	156	124	70.4	10.5	3.10	2.67	2.57	2.55	2.55	2.57	2.83	
85	2.02	53.2	107	143	157	148	116	61.8	3.36	1.13	1.17	1.21	1.23	1.20	1.11	0.99	
90	0.53	45.2	98.5	134	148	139	107	53.2	0.40	0.22	0.27	0.31	0.33	0.31	0.24	0.16	
95	0.59	38.2	90.0	125	139	130	98.4	45.8	0.27	0.14	0.21	0.27	0.28	0.26	0.21	0.14	
100	0.69	32.2	81.3	115	129	120	89.3	39.2	0.36	0.14	0.20	0.25	0.27	0.25	0.20	0.14	
105	0.66	27.2	72.8	105	118	110	80.2	33.5	0.47	0.14	0.20	0.24	0.25	0.24	0.20	0.15	
110	0.61	23.1	64.4	95.0	107	99.2	71.2	28.7	0.53	0.14	0.19	0.23	0.24	0.23	0.19	0.20	
115	0.57	19.5	56.5	84.7	96.1	88.5	62.6	24.4	0.53	0.17	0.18	0.21	0.22	0.21	0.18	0.26	
120	0.54	15.5	48.9	74.6	85.1	78.0	54.4	20.6	0.51	0.21	0.17	0.20	0.20	0.20	0.19	0.30	
125	0.49	12.3	41.8	64.8	74.2	67.8	46.6	17.1	0.47	0.24	0.18	0.20	0.20	0.19	0.20	0.32	
130	0.45	9.87	35.2	55.3	63.7	58.0	39.3	14.1	0.43	0.26	0.20	0.21	0.20	0.20	0.22	0.33	
135	0.40	8.03	28.6	46.4	53.6	48.6	32.5	11.1	0.39	0.28	0.22	0.22	0.22	0.21	0.24	0.33	
140	0.36	6.59	22.0	37.8	44.0	39.7	25.7	9.13	0.36	0.29	0.25	0.23	0.23	0.23	0.26	0.33	
145	0.31	5.06	16.8	29.2	34.8	31.0	19.9	7.13	0.33	0.30	0.26	0.25	0.25	0.24	0.27	0.32	
150	0.28	3.79	12.4	21.4	25.6	23.0	14.8	5.35	0.29	0.28	0.27	0.27	0.26	0.25	0.26	0.30	
155	0.25	2.91	8.96	15.1	18.1	16.3	10.6	3.79	0.27	0.27	0.26	0.27	0.26	0.25	0.25	0.28	
160	0.23	2.04	5.91	10.1	12.1	10.9	6.60	2.65	0.25	0.25	0.25	0.25	0.26	0.24	0.25	0.25	
165	0.22	1.03	3.50	5.98	7.23	6.50	3.94	1.64	0.23	0.23	0.24	0.24	0.24	0.24	0.24	0.25	
170	0.25	0.45	1.83	2.96	3.62	3.08	2.03	0.82	0.26	0.26	0.26	0.26	0.23	0.23	0.23	0.25	
175	0.26	0.27	0.45	0.79	1.14	0.86	0.63	0.33	0.26	0.26	0.26	0.26	0.25	0.22	0.23	0.23	
180	0.26	0.26	0.26	0.23	0.14	0.17	0.20	0.22	0.26	0.26	0.26	0.26	0.25	0.19	0.22	0.22	

11. Integrating Sphere Test Results for LSXWY-1000-L27-DF-I-10

11.1 Test Data

Test Ambient Temperature (Integrating sphere internal temperature)	25.1°C	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	0.4003	23.998	9.6064	905.95	0.4611	0.4078	0.2646	0.5265	2661	94.3
1	00h00m10s	0.4006	23.998	9.6136	905.84	0.4611	0.4078	0.2646	0.5265	2660	94.3
2	00h00m20s	0.4008	23.998	9.6184	906.01	0.4612	0.4076	0.2647	0.5264	2659	94.3
3	00h00m30s	0.4011	23.998	9.6256	906.06	0.4613	0.4077	0.2647	0.5265	2658	94.3
4	00h00m40s	0.4012	23.998	9.628	905.84	0.4612	0.4076	0.2647	0.5264	2659	94.3
5	00h00m50s	0.4014	23.998	9.6328	907.07	0.4611	0.4076	0.2647	0.5264	2659	94.3
6	00h01m00s	0.4016	23.998	9.6376	906.53	0.4614	0.4076	0.2649	0.5264	2655	94.2
7	00h01m10s	0.4018	23.998	9.6424	906.76	0.4612	0.4074	0.2648	0.5263	2657	94.3
8	00h01m20s	0.4019	23.998	9.6448	906.8	0.4613	0.4074	0.2648	0.5263	2656	94.3
9	00h01m30s	0.4021	23.998	9.6496	906.26	0.4613	0.4075	0.2648	0.5264	2657	94.3
10	00h01m40s	0.4022	23.998	9.652	907.13	0.4611	0.4071	0.2649	0.5262	2655	94.2
11	00h01m50s	0.4024	23.998	9.6568	907.03	0.4612	0.4075	0.2648	0.5263	2657	94.2
12	00h02m00s	0.4025	23.998	9.6592	907.2	0.4612	0.4074	0.2648	0.5263	2657	94.3
13	00h02m10s	0.4026	23.998	9.6616	907.32	0.4613	0.4073	0.2649	0.5263	2655	94.2
14	00h02m20s	0.4027	23.998	9.664	906.99	0.4613	0.4072	0.2649	0.5263	2654	94.3
15	00h02m30s	0.4028	23.998	9.6664	907.25	0.4612	0.4072	0.2649	0.5263	2655	94.2
16	00h02m40s	0.4029	23.998	9.6688	906.59	0.4613	0.4071	0.265	0.5262	2654	94.2
17	00h02m50s	0.403	23.998	9.6712	907.07	0.4613	0.4072	0.2649	0.5263	2654	94.3
18	00h03m00s	0.4031	23.998	9.6736	907.3	0.4614	0.4072	0.265	0.5263	2653	94.2
19	00h03m10s	0.4032	23.998	9.676	906.54	0.4614	0.4072	0.265	0.5263	2653	94.3
20	00h03m20s	0.4033	23.998	9.6784	907.58	0.4612	0.4072	0.2649	0.5262	2655	94.3
21	00h03m30s	0.4033	23.998	9.6784	907.35	0.4613	0.4072	0.265	0.5263	2653	94.3

22	00h03m40s	0.4034	23.998	9.6808	907.34	0.4613	0.4072	0.265	0.5263	2653	94.3
23	00h03m50s	0.4035	23.998	9.6832	907.97	0.4612	0.4072	0.2649	0.5263	2655	94.2
24	00h04m00s	0.4036	23.998	9.6856	907.2	0.4613	0.407	0.2651	0.5262	2652	94.2
25	00h04m10s	0.4036	23.998	9.6856	907.95	0.4613	0.4071	0.265	0.5262	2654	94.2
26	00h04m20s	0.4037	23.998	9.688	907.47	0.4613	0.407	0.2651	0.5262	2652	94.2
27	00h04m30s	0.4037	23.998	9.688	907.29	0.4615	0.4072	0.2651	0.5263	2651	94.2
28	00h04m40s	0.4038	23.998	9.6904	907.66	0.4613	0.407	0.2651	0.5262	2652	94.2
29	00h04m50s	0.4039	23.998	9.6928	907.35	0.4614	0.4071	0.265	0.5262	2652	94.3
30	00h05m00s	0.4039	23.998	9.6928	907.93	0.4614	0.4071	0.2651	0.5262	2652	94.2
31	00h05m10s	0.4039	23.998	9.6928	908.12	0.4613	0.407	0.265	0.5262	2653	94.2
32	00h05m20s	0.404	23.998	9.6952	907.29	0.4614	0.407	0.2651	0.5262	2651	94.2
33	00h05m30s	0.404	23.998	9.6952	907.87	0.4614	0.407	0.2651	0.5262	2650	94.3
34	00h05m40s	0.4041	23.998	9.6976	907.69	0.4613	0.4072	0.265	0.5263	2653	94.3
35	00h05m50s	0.4041	23.998	9.6976	908.29	0.4613	0.4071	0.265	0.5262	2653	94.2
36	00h06m00s	0.4041	23.998	9.6976	908.25	0.4614	0.4071	0.2651	0.5263	2651	94.2
37	00h06m10s	0.4042	23.998	9.7	907.85	0.4615	0.4071	0.2652	0.5263	2650	94.2
38	00h06m20s	0.4042	23.998	9.7	907.62	0.4613	0.407	0.2651	0.5262	2652	94.2
39	00h06m30s	0.4043	23.998	9.7024	907.85	0.4613	0.4069	0.2651	0.5262	2651	94.3
40	00h06m40s	0.4043	23.998	9.7024	908.14	0.4615	0.4069	0.2652	0.5262	2649	94.2
41	00h06m50s	0.4043	23.998	9.7024	908.02	0.4614	0.4069	0.2652	0.5262	2650	94.2
42	00h07m00s	0.4043	23.998	9.7024	908.15	0.4614	0.4071	0.2651	0.5262	2651	94.2
43	00h07m10s	0.4044	23.998	9.7048	907.94	0.4615	0.4071	0.2651	0.5263	2651	94.2
44	00h07m20s	0.4044	23.998	9.7048	908.76	0.4613	0.4069	0.2651	0.5262	2652	94.2
45	00h07m30s	0.4044	23.998	9.7048	908.14	0.4613	0.4068	0.2651	0.5261	2651	94.2
46	00h07m40s	0.4045	23.998	9.7072	908.66	0.4614	0.407	0.2651	0.5262	2651	94.2
47	00h07m50s	0.4045	23.998	9.7072	908.23	0.4614	0.4069	0.2652	0.5262	2649	94.2
48	00h08m00s	0.4045	23.998	9.7072	908.32	0.4614	0.407	0.2652	0.5262	2650	94.2
49	00h08m10s	0.4045	23.998	9.7072	908.43	0.4614	0.4069	0.2651	0.5262	2651	94.2
50	00h08m20s	0.4045	23.998	9.7072	907.59	0.4614	0.407	0.2651	0.5262	2651	94.3
51	00h08m30s	0.4046	23.998	9.7096	908.06	0.4615	0.407	0.2652	0.5262	2650	94.2
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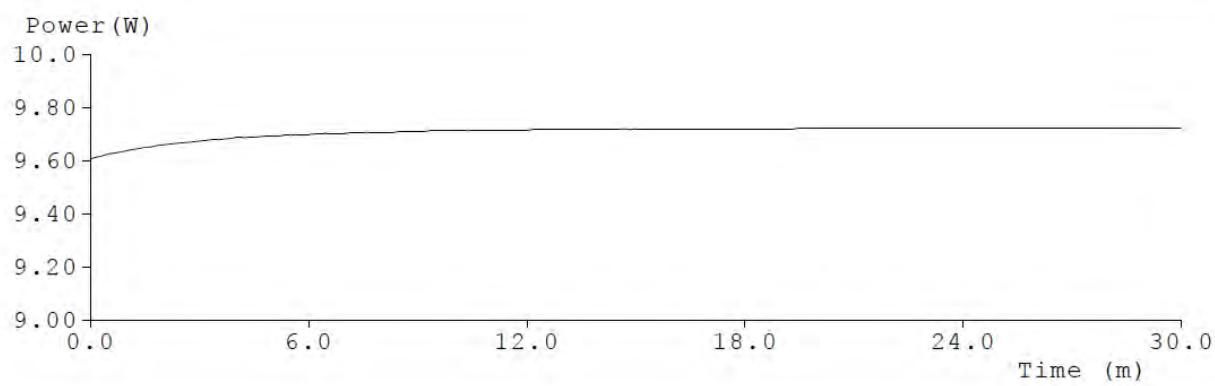
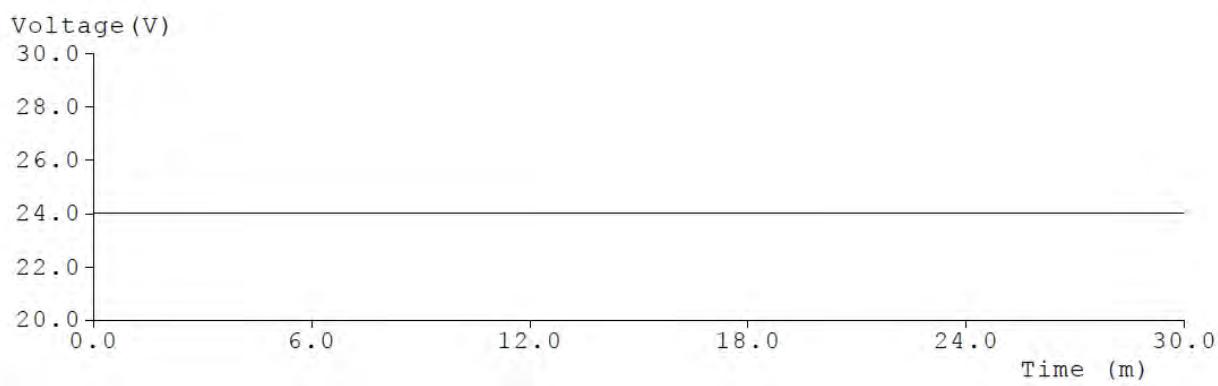
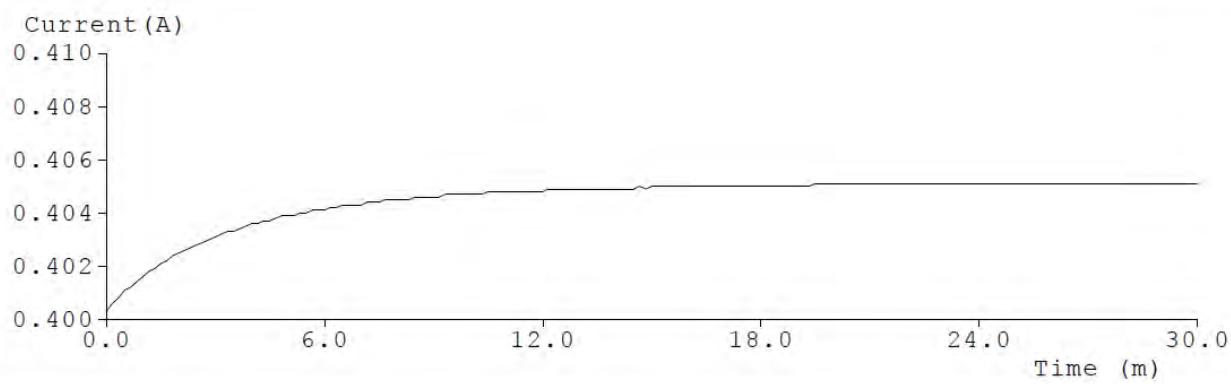
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54	00h09m00s	0.4046	23.998	9.7096	907.96	0.4615	0.4069	0.2652	0.5262	2649	94.2
55	00h09m10s	0.4046	23.998	9.7096	908.32	0.4615	0.407	0.2652	0.5262	2649	94.2
56	00h09m20s	0.4047	23.998	9.712	908.17	0.4615	0.4071	0.2651	0.5263	2651	94.2
57	00h09m30s	0.4047	23.998	9.712	908.22	0.4613	0.4068	0.2652	0.5261	2650	94.2
58	00h09m40s	0.4047	23.998	9.712	908.53	0.4615	0.4071	0.2651	0.5263	2650	94.2
59	00h09m50s	0.4047	23.998	9.712	909.21	0.4614	0.407	0.2651	0.5262	2651	94.2
60	00h10m00s	0.4047	23.998	9.712	908.81	0.4614	0.4071	0.2651	0.5262	2651	94.2
61	00h10m10s	0.4047	23.998	9.712	908.62	0.4614	0.407	0.2651	0.5262	2651	94.2
62	00h10m20s	0.4047	23.998	9.712	908.51	0.4615	0.407	0.2652	0.5262	2650	94.2
63	00h10m30s	0.4048	23.998	9.7144	909.1	0.4615	0.4071	0.2651	0.5263	2651	94.2
64	00h10m40s	0.4048	23.998	9.7144	909.09	0.4615	0.407	0.2652	0.5262	2649	94.2
65	00h10m50s	0.4048	23.998	9.7144	908.5	0.4615	0.4071	0.2652	0.5262	2650	94.2
66	00h11m00s	0.4048	23.998	9.7144	908.15	0.4615	0.4069	0.2652	0.5262	2649	94.2
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68	00h11m20s	0.4048	23.998	9.7144	908.48	0.4616	0.4071	0.2652	0.5263	2648	94.3
69	00h11m30s	0.4048	23.998	9.7144	907.8	0.4614	0.4069	0.2652	0.5262	2650	94.2
70	00h11m40s	0.4048	23.998	9.7144	908.44	0.4616	0.407	0.2652	0.5262	2648	94.2
71	00h11m50s	0.4048	23.998	9.7144	908.53	0.4615	0.4069	0.2652	0.5262	2649	94.2
72	00h12m00s	0.4048	23.998	9.7144	908.67	0.4614	0.4067	0.2652	0.5261	2649	94.2
73	00h12m10s	0.4049	23.998	9.7168	908.96	0.4616	0.4071	0.2652	0.5263	2648	94.2
74	00h12m20s	0.4049	23.998	9.7168	908.05	0.4616	0.407	0.2653	0.5262	2648	94.2
75	00h12m30s	0.4049	23.998	9.7168	908.6	0.4615	0.407	0.2652	0.5262	2649	94.2
76	00h12m40s	0.4049	23.998	9.7168	908.66	0.4615	0.4071	0.2652	0.5262	2650	94.2
77	00h12m50s	0.4049	23.998	9.7168	908.16	0.4616	0.407	0.2653	0.5262	2648	94.2
78	00h13m00s	0.4049	23.998	9.7168	908.96	0.4614	0.4068	0.2652	0.5261	2649	94.3
79	00h13m10s	0.4049	23.998	9.7168	909.04	0.4615	0.407	0.2652	0.5262	2650	94.2
80	00h13m20s	0.4049	23.998	9.7168	908.55	0.4616	0.4072	0.2652	0.5263	2650	94.3
81	00h13m30s	0.4049	23.998	9.7168	908.47	0.4615	0.407	0.2652	0.5262	2649	94.3
82	00h13m40s	0.4049	23.998	9.7168	908.04	0.4615	0.407	0.2652	0.5262	2648	94.2
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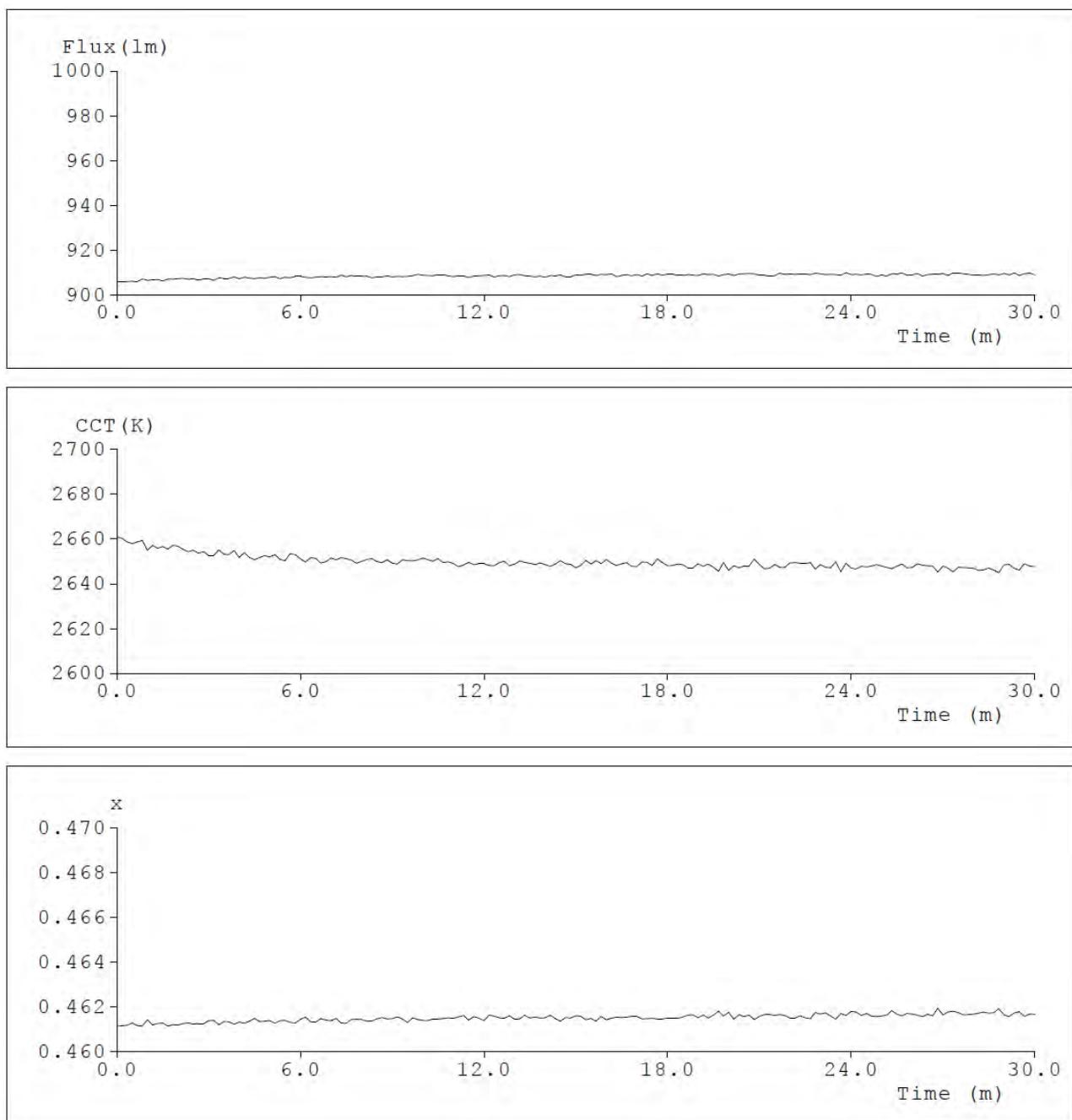
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86	00h14m20s	0.4049	23.998	9.7168	908.44	0.4615	0.4069	0.2652	0.5262	2649	94.2
87	00h14m30s	0.4049	23.998	9.7168	908.88	0.4613	0.4069	0.2652	0.5261	2650	94.2
88	00h14m40s	0.405	23.998	9.7192	908.15	0.4615	0.407	0.2652	0.5262	2649	94.3
89	00h14m50s	0.4049	23.998	9.7168	908.13	0.4615	0.4069	0.2652	0.5262	2649	94.2
90	00h15m00s	0.405	23.998	9.7192	908.86	0.4616	0.4069	0.2653	0.5262	2647	94.2
91	00h15m10s	0.405	23.998	9.7192	908.78	0.4616	0.407	0.2653	0.5262	2648	94.2
92	00h15m20s	0.405	23.998	9.7192	909.16	0.4614	0.407	0.2651	0.5262	2650	94.2
93	00h15m30s	0.405	23.998	9.7192	909.14	0.4615	0.4069	0.2652	0.5262	2649	94.2
94	00h15m40s	0.405	23.998	9.7192	908.64	0.4614	0.4069	0.2652	0.5262	2650	94.2
95	00h15m50s	0.405	23.998	9.7192	909.18	0.4616	0.4071	0.2652	0.5263	2649	94.2
96	00h16m00s	0.405	23.998	9.7192	909.09	0.4614	0.407	0.2651	0.5262	2651	94.2
97	00h16m10s	0.405	23.998	9.7192	909.48	0.4615	0.407	0.2652	0.5262	2649	94.2
98	00h16m20s	0.405	23.998	9.7192	908.16	0.4615	0.4069	0.2653	0.5262	2648	94.2
99	00h16m30s	0.405	23.998	9.7192	908.66	0.4615	0.407	0.2652	0.5262	2649	94.2
100	00h16m40s	0.405	23.998	9.7192	909.03	0.4615	0.4071	0.2652	0.5262	2649	94.2
101	00h16m50s	0.405	23.998	9.7192	908.57	0.4616	0.4069	0.2653	0.5262	2648	94.2
102	00h17m00s	0.405	23.998	9.7192	909.04	0.4616	0.4069	0.2653	0.5262	2648	94.2
103	00h17m10s	0.405	23.998	9.7192	908.38	0.4615	0.407	0.2652	0.5262	2650	94.2
104	00h17m20s	0.405	23.998	9.7192	909.46	0.4615	0.407	0.2652	0.5262	2650	94.2
105	00h17m30s	0.405	23.998	9.7192	908.71	0.4615	0.4068	0.2653	0.5261	2648	94.2
106	00h17m40s	0.405	23.998	9.7192	909.4	0.4615	0.4072	0.2651	0.5263	2651	94.3
107	00h17m50s	0.405	23.998	9.7192	908.8	0.4615	0.4069	0.2652	0.5262	2649	94.2
108	00h18m00s	0.405	23.998	9.7192	909.29	0.4615	0.4068	0.2653	0.5262	2648	94.2
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111	00h18m30s	0.405	23.998	9.7192	908.64	0.4615	0.407	0.2652	0.5262	2649	94.2
112	00h18m40s	0.405	23.998	9.7192	909.01	0.4616	0.4069	0.2653	0.5262	2647	94.2
113	00h18m50s	0.405	23.998	9.7192	908.79	0.4616	0.4069	0.2653	0.5262	2647	94.2
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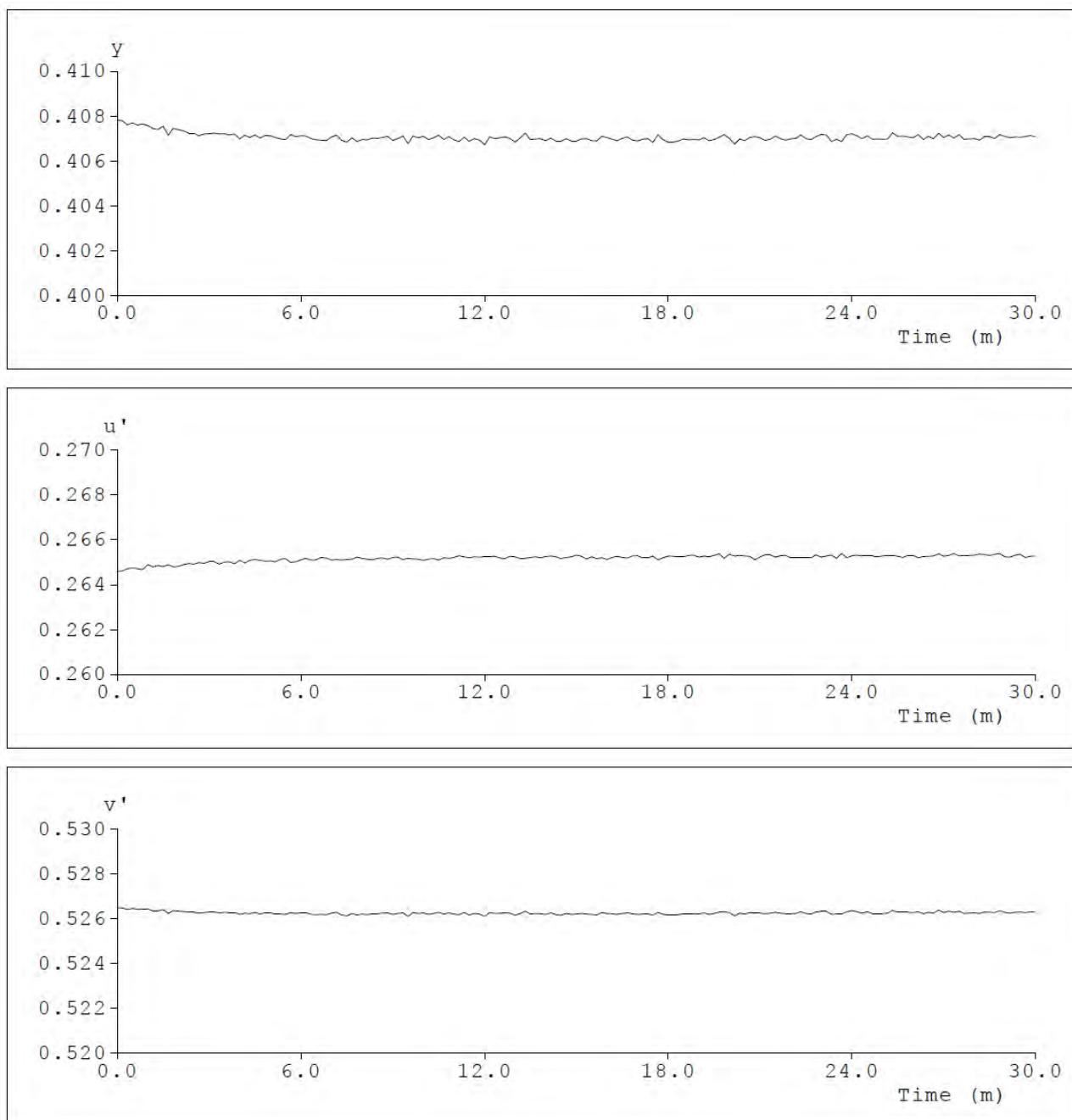
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117	00h19m30s	0.4051	23.998	9.7216	909.21	0.4616	0.407	0.2653	0.5262	2647	94.2
118	00h19m40s	0.4051	23.998	9.7216	908.46	0.4618	0.407	0.2654	0.5263	2646	94.2
119	00h19m50s	0.4051	23.998	9.7216	909.05	0.4616	0.4072	0.2652	0.5263	2649	94.2
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121	00h20m10s	0.4051	23.998	9.7216	908.64	0.4615	0.4068	0.2653	0.5261	2648	94.2
122	00h20m20s	0.4051	23.998	9.7216	909.26	0.4617	0.407	0.2653	0.5262	2647	94.2
123	00h20m30s	0.4051	23.998	9.7216	909.38	0.4616	0.4069	0.2653	0.5262	2648	94.2
124	00h20m40s	0.4051	23.998	9.7216	909.6	0.4616	0.407	0.2653	0.5263	2648	94.2
125	00h20m50s	0.4051	23.998	9.7216	909.5	0.4614	0.4071	0.2651	0.5262	2651	94.2
126	00h21m00s	0.4051	23.998	9.7216	908.71	0.4616	0.407	0.2652	0.5262	2649	94.2
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129	00h21m30s	0.4051	23.998	9.7216	908.54	0.4616	0.4071	0.2652	0.5263	2649	94.2
130	00h21m40s	0.4051	23.998	9.7216	909.74	0.4616	0.407	0.2653	0.5262	2647	94.2
131	00h21m50s	0.4051	23.998	9.7216	909.16	0.4616	0.4069	0.2653	0.5262	2647	94.2
132	00h22m00s	0.4051	23.998	9.7216	909.3	0.4615	0.407	0.2652	0.5262	2649	94.2
133	00h22m10s	0.4051	23.998	9.7216	909.2	0.4615	0.407	0.2652	0.5262	2649	94.2
134	00h22m20s	0.4051	23.998	9.7216	909.34	0.4616	0.4072	0.2652	0.5263	2649	94.2
135	00h22m30s	0.4051	23.998	9.7216	909.27	0.4615	0.407	0.2652	0.5262	2649	94.2
136	00h22m40s	0.4051	23.998	9.7216	909.07	0.4615	0.4069	0.2652	0.5262	2649	94.3
137	00h22m50s	0.4051	23.998	9.7216	909.67	0.4617	0.4071	0.2653	0.5263	2647	94.2
138	00h23m00s	0.4051	23.998	9.7216	909.38	0.4617	0.4072	0.2652	0.5263	2648	94.2
139	00h23m10s	0.4051	23.998	9.7216	909.09	0.4617	0.4071	0.2653	0.5263	2647	94.3
140	00h23m20s	0.4051	23.998	9.7216	909.22	0.4616	0.4069	0.2653	0.5262	2647	94.2
141	00h23m30s	0.4051	23.998	9.7216	909.07	0.4614	0.407	0.2652	0.5262	2650	94.3
142	00h23m40s	0.4051	23.998	9.7216	908.81	0.4617	0.4069	0.2654	0.5262	2645	94.2
143	00h23m50s	0.4051	23.998	9.7216	909.94	0.4616	0.4072	0.2652	0.5263	2649	94.2
144	00h24m00s	0.4051	23.998	9.7216	909.05	0.4618	0.4072	0.2653	0.5263	2647	94.2
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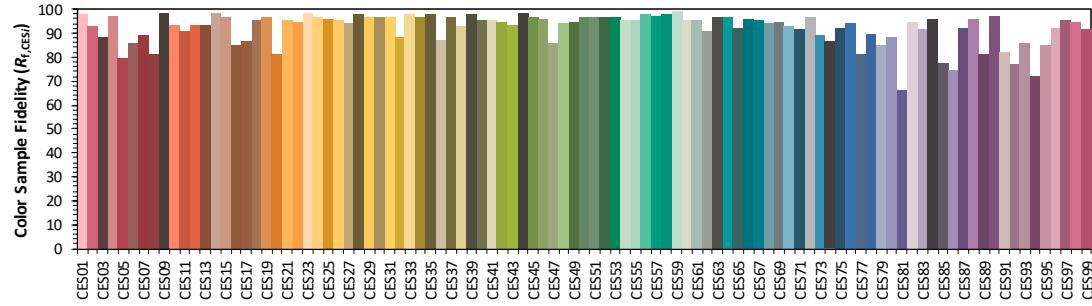
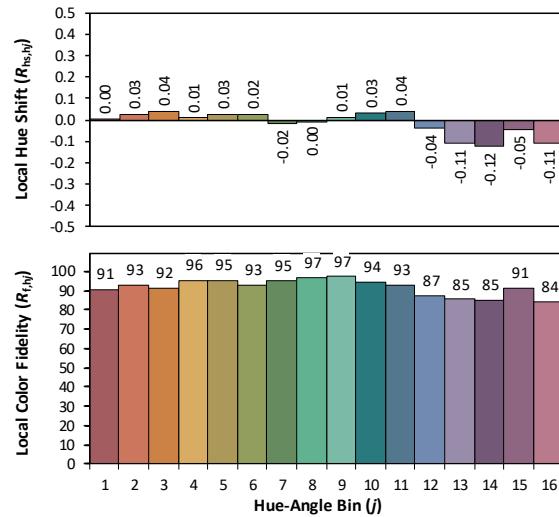
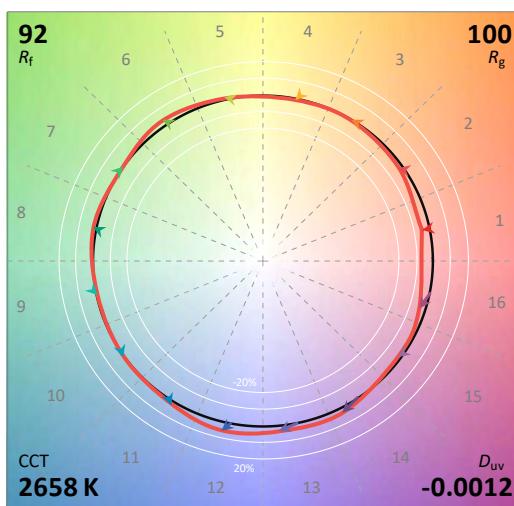
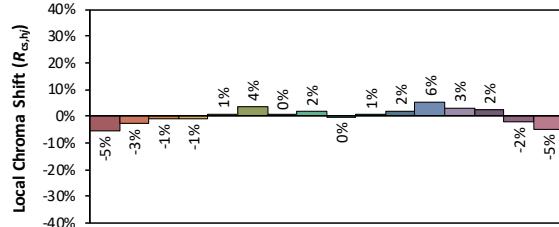
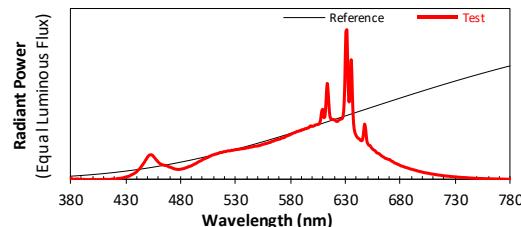
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147	00h24m30s	0.4051	23.998	9.7216	909.31	0.4617	0.4071	0.2653	0.5263	2647	94.2
148	00h24m40s	0.4051	23.998	9.7216	909.18	0.4616	0.407	0.2653	0.5262	2648	94.2
149	00h24m50s	0.4051	23.998	9.7216	908.31	0.4616	0.407	0.2652	0.5262	2648	94.3
150	00h25m00s	0.4051	23.998	9.7216	908.98	0.4616	0.407	0.2653	0.5262	2648	94.2
151	00h25m10s	0.4051	23.998	9.7216	908.46	0.4616	0.407	0.2653	0.5262	2647	94.2
152	00h25m20s	0.4051	23.998	9.7216	909.42	0.4618	0.4072	0.2653	0.5264	2647	94.2
153	00h25m30s	0.4051	23.998	9.7216	909.31	0.4617	0.4071	0.2653	0.5263	2648	94.2
154	00h25m40s	0.4051	23.998	9.7216	909.85	0.4616	0.4071	0.2652	0.5263	2649	94.2
155	00h25m50s	0.4051	23.998	9.7216	908.75	0.4617	0.4071	0.2653	0.5263	2647	94.2
156	00h26m00s	0.4051	23.998	9.7216	908.9	0.4617	0.407	0.2653	0.5263	2647	94.2
157	00h26m10s	0.4051	23.998	9.7216	909.51	0.4616	0.4072	0.2652	0.5263	2649	94.2
158	00h26m20s	0.4051	23.998	9.7216	908.4	0.4616	0.407	0.2652	0.5262	2648	94.2
159	00h26m30s	0.4051	23.998	9.7216	909.1	0.4617	0.4071	0.2653	0.5263	2648	94.2
160	00h26m40s	0.4051	23.998	9.7216	909.19	0.4616	0.407	0.2653	0.5262	2648	94.2
161	00h26m50s	0.4051	23.998	9.7216	909.24	0.4619	0.4072	0.2654	0.5264	2645	94.2
162	00h27m00s	0.4051	23.998	9.7216	909.56	0.4616	0.407	0.2653	0.5263	2648	94.2
163	00h27m10s	0.4051	23.998	9.7216	908.66	0.4618	0.4072	0.2653	0.5263	2647	94.2
164	00h27m20s	0.4051	23.998	9.7216	909.88	0.4618	0.407	0.2654	0.5263	2645	94.2
165	00h27m30s	0.4051	23.998	9.7216	909.81	0.4617	0.4072	0.2653	0.5263	2647	94.2
166	00h27m40s	0.4051	23.998	9.7216	909.45	0.4616	0.407	0.2653	0.5262	2647	94.2
167	00h27m50s	0.4051	23.998	9.7216	909.22	0.4617	0.407	0.2653	0.5262	2647	94.2
168	00h28m00s	0.4051	23.998	9.7216	908.76	0.4617	0.407	0.2653	0.5262	2647	94.2
169	00h28m10s	0.4051	23.998	9.7216	908.96	0.4617	0.4069	0.2654	0.5262	2646	94.2
170	00h28m20s	0.4051	23.998	9.7216	908.66	0.4618	0.4071	0.2653	0.5263	2646	94.2
171	00h28m30s	0.4051	23.998	9.7216	909	0.4617	0.4071	0.2653	0.5263	2647	94.2
172	00h28m40s	0.4051	23.998	9.7216	909.27	0.4617	0.407	0.2653	0.5263	2646	94.2
173	00h28m50s	0.4051	23.998	9.7216	908.99	0.4619	0.4072	0.2654	0.5263	2645	94.2
174	00h29m00s	0.4051	23.998	9.7216	909.6	0.4616	0.4071	0.2652	0.5263	2648	94.2
175	00h29m10s	0.4051	23.998	9.7216	908.93	0.4616	0.407	0.2652	0.5262	2649	94.2
176	00h29m20s	0.4051	23.998	9.7216	909.86	0.4617	0.4071	0.2653	0.5263	2647	94.2

177	00h29m30s	0.4051	23.998	9.7216	908.63	0.4618	0.4071	0.2653	0.5263	2646	94.2
178	00h29m40s	0.4051	23.998	9.7216	909.42	0.4616	0.4071	0.2652	0.5263	2649	94.2
179	00h29m50s	0.4051	23.998	9.7216	909.83	0.4617	0.4071	0.2653	0.5263	2648	94.2
180	00h30m00s	0.4051	23.998	9.7216	908.88	0.4617	0.4071	0.2653	0.5263	2648	94.2

Test curves





11.2 ANSI/IES TM-30-18 Color Rendition Report*ANSI/IES TM-30-18 Color Rendition Report****Source:****Manufacturer:****Date:** 2023/10/19**Model:** LSXWY-1000-L27-DF-I-10

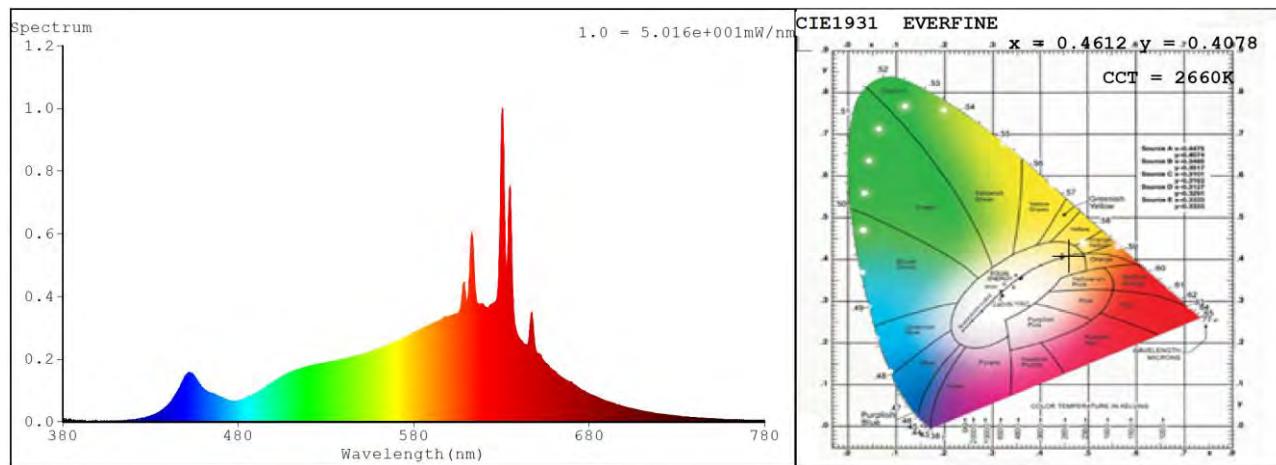
Notes: This is a recommended method for displaying ANSI/IES TM-30-18 information.

x 0.4612
 y 0.4077
 u' 0.2647
 v' 0.5264

CIE 13.3-1995
(CRI)
 R_a 94
 R_9 58

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

11.3 Relative Spectral Power Distribution



nm	mW								
380	0.0116	414	0.0033	448	0.1254	482	0.0704	516	0.1709
381	0.0028	415	0.0026	449	0.1361	483	0.0713	517	0.1703
382	0.0049	416	0.0041	450	0.1466	484	0.0751	518	0.1731
383	0	417	0.005	451	0.1528	485	0.0768	519	0.1755
384	0.0067	418	0.0061	452	0.1561	486	0.0793	520	0.1758
385	0.0038	419	0.0061	453	0.1556	487	0.0831	521	0.1781
386	0.0057	420	0.0054	454	0.1534	488	0.0846	522	0.1789
387	0.0053	421	0.0061	455	0.1445	489	0.0866	523	0.1813
388	0.0021	422	0.0084	456	0.1378	490	0.0901	524	0.1805
389	0.003	423	0.0095	457	0.1286	491	0.0939	525	0.1814
390	0.0022	424	0.0091	458	0.1209	492	0.0979	526	0.1846
391	0.0037	425	0.0099	459	0.1129	493	0.0997	527	0.1835
392	0.0035	426	0.012	460	0.1065	494	0.1047	528	0.1854
393	0.0021	427	0.0127	461	0.1	495	0.1085	529	0.1875
394	0.0023	428	0.0146	462	0.0976	496	0.1127	530	0.1891
395	0	429	0.0171	463	0.0934	497	0.116	531	0.1884
396	0.0017	430	0.0186	464	0.0928	498	0.1189	532	0.1911
397	0.0018	431	0.0206	465	0.0904	499	0.1232	533	0.1901
398	0.0019	432	0.0221	466	0.0896	500	0.1276	534	0.1926
399	0.0039	433	0.0244	467	0.0882	501	0.1302	535	0.1937
400	0.0016	434	0.0281	468	0.0851	502	0.1329	536	0.1933
401	0.0023	435	0.0324	469	0.0802	503	0.1366	537	0.1959
402	0.0016	436	0.0355	470	0.0803	504	0.1389	538	0.195
403	0.0003	437	0.0388	471	0.0775	505	0.1419	539	0.1984
404	0.0019	438	0.0433	472	0.0741	506	0.1469	540	0.1995
405	0.0022	439	0.0473	473	0.0714	507	0.1487	541	0.1995
406	0.0015	440	0.054	474	0.0688	508	0.1535	542	0.2023
407	0.0014	441	0.0616	475	0.0673	509	0.1551	543	0.203
408	0.0018	442	0.0666	476	0.0662	510	0.157	544	0.205
409	0.0014	443	0.0761	477	0.065	511	0.1606	545	0.2054
410	0.0043	444	0.0844	478	0.0655	512	0.1604	546	0.2077
411	0.0032	445	0.0946	479	0.0659	513	0.1641	547	0.2103
412	0.0033	446	0.1039	480	0.0668	514	0.1647	548	0.2094
413	0.0036	447	0.1141	481	0.0684	515	0.1691	549	0.2104

nm	mW								
550	0.2125	599	0.3336	648	0.3159	697	0.0533	746	0.0108
551	0.2122	600	0.3334	649	0.2461	698	0.0508	747	0.0105
552	0.2154	601	0.336	650	0.2248	699	0.05	748	0.0103
553	0.2175	602	0.3407	651	0.2156	700	0.0476	749	0.0101
554	0.2198	603	0.3427	652	0.2136	701	0.0459	750	0.0096
555	0.2225	604	0.3438	653	0.2026	702	0.0447	751	0.0096
556	0.2234	605	0.3451	654	0.1948	703	0.0441	752	0.009
557	0.227	606	0.3526	655	0.1876	704	0.0421	753	0.0093
558	0.2261	607	0.3735	656	0.1842	705	0.0413	754	0.0089
559	0.23	608	0.4252	657	0.1783	706	0.0402	755	0.0085
560	0.2318	609	0.4378	658	0.1692	707	0.0381	756	0.008
561	0.2324	610	0.3869	659	0.1666	708	0.0369	757	0.008
562	0.2367	611	0.3963	660	0.1641	709	0.0365	758	0.0077
563	0.2398	612	0.4928	661	0.1587	710	0.035	759	0.0076
564	0.2414	613	0.5996	662	0.1519	711	0.0343	760	0.0074
565	0.2442	614	0.5339	663	0.1472	712	0.0326	761	0.0075
566	0.2469	615	0.4251	664	0.143	713	0.0317	762	0.0072
567	0.251	616	0.3833	665	0.1392	714	0.0307	763	0.0063
568	0.2499	617	0.3777	666	0.1336	715	0.0299	764	0.0069
569	0.2532	618	0.3745	667	0.1327	716	0.029	765	0.0062
570	0.2536	619	0.3751	668	0.1294	717	0.0279	766	0.0063
571	0.2576	620	0.372	669	0.1273	718	0.0269	767	0.0063
572	0.2619	621	0.3653	670	0.1265	719	0.0264	768	0.006
573	0.2615	622	0.3634	671	0.1188	720	0.0257	769	0.0055
574	0.2634	623	0.3667	672	0.116	721	0.024	770	0.0053
575	0.2684	624	0.3742	673	0.1126	722	0.0239	771	0.0054
576	0.2727	625	0.3764	674	0.1068	723	0.0232	772	0.0057
577	0.2742	626	0.3791	675	0.1036	724	0.0225	773	0.0054
578	0.2779	627	0.3844	676	0.1019	725	0.0216	774	0.0048
579	0.2794	628	0.4258	677	0.0973	726	0.0211	775	0.0049
580	0.2845	629	0.5927	678	0.0952	727	0.0202	776	0.005
581	0.2866	630	0.9177	679	0.092	728	0.0196	777	0.0044
582	0.2909	631	0.9314	680	0.0874	729	0.0196	778	0.0045
583	0.2933	632	0.6115	681	0.0862	730	0.0188	779	0.0046
584	0.2945	633	0.484	682	0.0837	731	0.0185	780	0.0046
585	0.2995	634	0.63	683	0.0815	732	0.017		
586	0.3019	635	0.7442	684	0.0784	733	0.0166		
587	0.3026	636	0.5125	685	0.0768	734	0.0167		
588	0.3065	637	0.3525	686	0.075	735	0.0155		
589	0.3058	638	0.3022	687	0.0721	736	0.015		
590	0.3122	639	0.281	688	0.0702	737	0.0154		
591	0.312	640	0.2686	689	0.0672	738	0.0145		
592	0.3147	641	0.26	690	0.0663	739	0.0139		
593	0.3189	642	0.2558	691	0.0645	740	0.0133		
594	0.3186	643	0.2489	692	0.062	741	0.0132		
595	0.3224	644	0.2438	693	0.0608	742	0.013		
596	0.3233	645	0.2469	694	0.0586	743	0.0122		
597	0.3314	646	0.2858	695	0.0565	744	0.0117		
598	0.3361	647	0.346	696	0.0542	745	0.0115		

12. Goniophotometer Test results for LSXWY-1000-L27-DF-I-10

12.1 Test Data

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

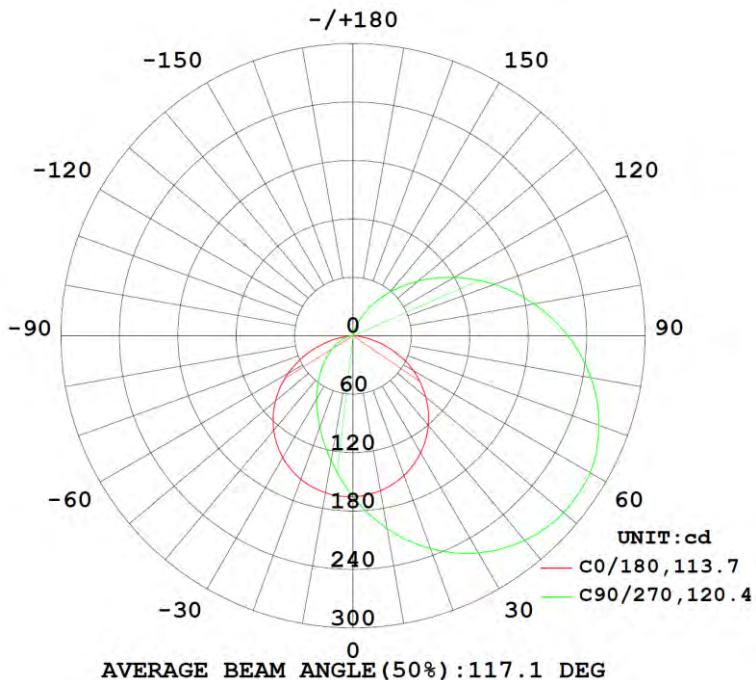
Electrical Measurement

Input Voltage (V)	Frequency (Hz)	Input Current(A)	Power Factor	Power(W)
24.002	--	0.41447	1.0000	9.9482

Optical Measurement

Luminous Flux (lm)	Efficacy(lm/W)	I_{max} (cd)	η up (%)	η down (%)
955.365	96.03	282.8	22.2	77.8

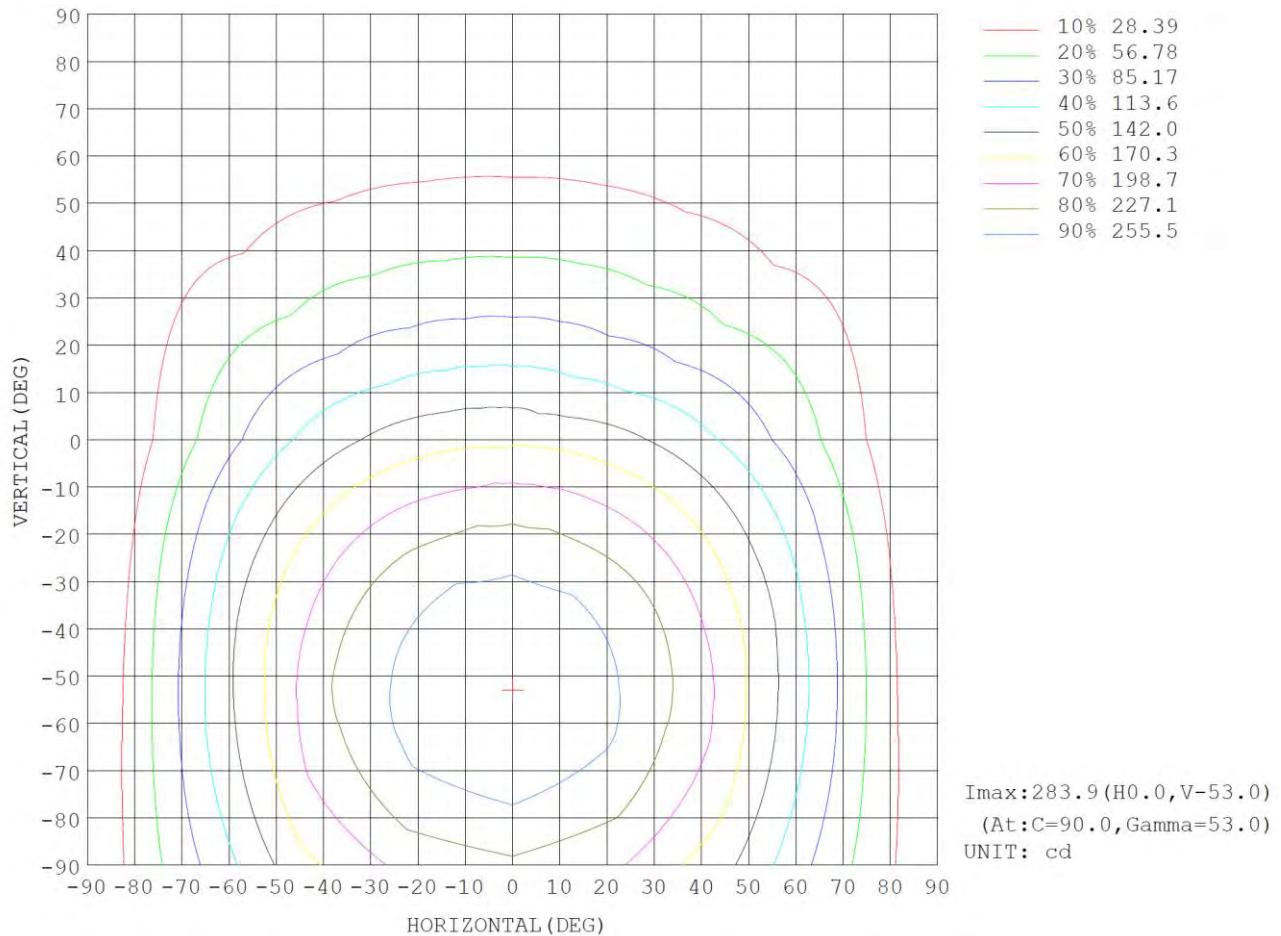
12.2 Luminous Intensity Distribution



12.3 Zonal Flux Diagram

γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	%lum,lamp
10	161.6	188.5	201.0	191.1	163.7	139.5	130.2	137.7	0- 10	15.72	15.72	1.65,1.65
20	152.7	207.0	232.6	212.7	156.9	113.6	100.0	110.7	10- 20	46.06	61.78	6.47,6.47
30	138.8	219.7	257.5	228.5	144.6	88.83	74.77	85.43	20- 30	73.03	134.8	14.1,14.1
40	120.3	225.5	274.3	237.2	126.9	65.85	53.56	62.41	30- 40	94.41	229.2	24,24
50	97.42	224.1	282.3	238.2	104.2	45.16	36.15	42.02	40- 50	108.3	337.5	35.3,35.3
60	71.65	216.0	281.2	231.8	76.96	27.72	22.50	25.09	50- 60	113.7	451.2	47.2,47.2
70	42.30	199.0	268.8	215.6	46.69	14.37	12.60	12.62	60- 70	110.3	561.4	58.8,58.8
80	14.35	176.1	248.2	192.3	16.88	5.721	5.683	4.652	70- 80	98.98	660.4	69.1,69.1
90	0.9567	149.0	220.8	163.9	1.157	0.9431	1.157	0.5008	80- 90	83.30	743.7	77.8,77.8
100	1.086	120.8	188.9	133.8	1.225	0.3344	0.4323	0.3186	90-100	68.05	811.8	85,85
110	1.051	93.56	154.6	104.3	1.042	0.2852	0.3579	0.2811	100-110	53.10	864.9	90.5,90.5
120	0.8314	68.84	120.1	77.21	0.8864	0.2869	0.3464	0.3138	110-120	38.48	903.4	94.6,94.6
130	0.6944	47.55	87.48	53.82	0.7528	0.3578	0.3680	0.3990	120-130	25.61	929.0	97.2,97.2
140	0.5600	29.99	58.12	34.43	0.6114	0.4110	0.3949	0.4422	130-140	15.16	944.1	98.8,98.8
150	0.4366	16.41	33.30	19.28	0.4913	0.4327	0.4213	0.4320	140-150	7.613	951.7	99.6,99.6
160	0.3660	6.913	14.66	7.345	0.4096	0.3998	0.4075	0.3936	150-160	2.912	954.7	99.9,99.9
170	0.3897	0.8990	3.038	1.205	0.4188	0.4180	0.3772	0.3782	160-170	0.6603	955.3	100,100
180	0.4148	0.4102	0.3000	0.3447	0.4132	0.4067	0.3954	0.3442	170-180	0.0500	955.4	100,100
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

12.4 Isocandela Diagram



12.5 Luminous Distribution Intensity Data

Table--1

γ (DEG)	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	UNIT: cd		
0	165	165	165	165	165	165	165	165	165	165	165	165	165	165	165	165	165			
5	164	171	177	182	183	182	179	173	165	158	153	149	147	148	152	157				
10	162	176	188	197	201	199	191	179	164	150	140	133	130	132	138	148				
15	158	179	198	212	218	214	203	183	161	141	127	118	114	117	124	138				
20	153	181	207	225	233	228	213	187	157	131	114	104	100	103	111	127				
25	146	182	214	237	246	240	221	189	151	121	101	90.4	86.8	89.4	97.8	116				
30	139	181	220	247	257	250	228	190	145	110	88.8	78.3	74.8	77.2	85.4	104				
35	130	179	223	255	267	259	234	189	136	98.0	77.1	67.0	63.7	65.9	73.6	92.4				
40	120	175	225	260	274	265	237	186	127	86.0	65.8	56.6	53.6	55.5	62.4	80.3				
45	109	170	226	264	280	270	239	182	116	73.8	55.2	47.0	44.4	46.0	51.8	68.3				
50	97.4	164	224	266	282	272	238	177	104	61.8	45.2	38.3	36.2	37.4	42.0	56.5				
55	84.6	156	221	265	283	271	236	169	91.1	50.0	36.0	30.5	28.9	29.8	33.1	45.1				
60	71.7	147	216	263	281	269	232	161	77.0	38.7	27.7	23.7	22.5	23.0	25.1	34.4				
65	57.5	136	209	257	277	264	225	151	62.0	28.3	20.4	17.9	17.1	17.4	18.3	24.6				
70	42.3	124	199	249	269	256	216	138	46.7	19.1	14.4	13.0	12.6	12.6	12.6	16.1				
75	27.9	111	188	240	260	246	205	125	31.5	11.5	9.51	9.02	8.83	8.69	8.13	9.31				
80	14.4	97.1	176	228	248	235	192	110	16.9	5.98	5.72	5.73	5.68	5.45	4.65	4.49				
85	4.16	83.1	163	215	235	221	178	95.1	5.46	2.43	2.87	3.06	3.06	2.77	1.96	1.53				
90	0.96	69.8	149	201	221	207	164	80.7	1.16	0.53	0.94	1.16	1.16	0.97	0.50	0.23				
95	1.10	58.1	135	186	205	192	149	67.6	1.00	0.22	0.35	0.45	0.54	0.45	0.35	0.23				
100	1.09	48.1	121	170	189	175	134	56.3	1.22	0.24	0.33	0.41	0.43	0.40	0.32	0.22				
105	1.06	39.8	107	154	172	159	119	46.8	1.14	0.23	0.32	0.39	0.44	0.39	0.32	0.26				
110	1.05	33.0	93.6	138	155	142	104	39.0	1.04	0.23	0.29	0.34	0.36	0.34	0.28	0.32				
115	0.89	27.1	80.8	122	137	125	90.2	32.0	0.96	0.29	0.28	0.33	0.35	0.33	0.29	0.42				
120	0.83	22.2	68.8	106	120	109	77.2	26.3	0.89	0.38	0.29	0.33	0.35	0.33	0.31	0.49				
125	0.76	18.0	57.8	90.6	103	93.3	65.0	21.5	0.84	0.46	0.34	0.36	0.37	0.36	0.37	0.54				
130	0.69	14.4	47.5	76.2	87.5	78.4	53.8	17.2	0.75	0.49	0.36	0.36	0.37	0.36	0.40	0.54				
135	0.62	11.3	38.3	62.6	72.3	64.5	43.6	13.3	0.68	0.50	0.38	0.37	0.38	0.37	0.42	0.53				
140	0.56	8.70	30.0	49.9	58.1	51.4	34.4	10.3	0.61	0.51	0.41	0.38	0.39	0.39	0.44	0.52				
145	0.48	6.43	22.7	38.4	45.0	39.7	26.3	7.88	0.55	0.51	0.44	0.41	0.42	0.41	0.45	0.50				
150	0.44	4.43	16.4	28.2	33.3	29.1	19.3	5.63	0.49	0.47	0.43	0.43	0.42	0.41	0.43	0.48				
155	0.40	2.68	11.2	19.4	23.0	20.1	13.4	3.36	0.45	0.45	0.42	0.43	0.42	0.40	0.41	0.45				
160	0.37	1.23	6.91	12.4	14.7	12.8	7.34	1.65	0.41	0.41	0.40	0.40	0.41	0.39	0.39	0.41				
165	0.35	0.42	3.33	6.69	8.05	6.98	3.87	0.61	0.38	0.38	0.39	0.39	0.40	0.38	0.39	0.40				
170	0.39	0.39	0.90	2.28	3.04	2.02	1.20	0.35	0.42	0.42	0.42	0.42	0.38	0.38	0.38	0.39				
175	0.40	0.40	0.40	0.40	0.36	0.33	0.35	0.34	0.42	0.42	0.41	0.42	0.41	0.36	0.36	0.36				
180	0.41	0.41	0.41	0.40	0.30	0.34	0.34	0.35	0.41	0.41	0.41	0.41	0.40	0.31	0.34	0.35				

13. Integrating Sphere Test Results for LSXWY-1000-L27-DF-I-15

13.1 Test Data

Test Ambient Temperature (Integrating sphere internal temperature)	25.1°C	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	0.5496	23.998	13.189	1228.7	0.4601	0.4079	0.2639	0.5263	2676	94.2
1	00h00m10s	0.5502	23.998	13.204	1229	0.4602	0.4077	0.264	0.5263	2673	94.1
2	00h00m20s	0.5507	23.998	13.216	1229.5	0.46	0.4078	0.2639	0.5263	2676	94.2
3	00h00m30s	0.5512	23.998	13.228	1230	0.4599	0.4076	0.2639	0.5262	2675	94.2
4	00h00m40s	0.5516	23.998	13.237	1230.4	0.4601	0.4076	0.264	0.5262	2673	94.2
5	00h00m50s	0.552	23.998	13.247	1229.1	0.4602	0.4075	0.2641	0.5262	2671	94.1
6	00h01m00s	0.5524	23.998	13.256	1229.7	0.46	0.4074	0.2641	0.5261	2672	94.2
7	00h01m10s	0.5528	23.998	13.266	1231	0.4601	0.4074	0.2641	0.5262	2672	94.1
8	00h01m20s	0.5531	23.998	13.273	1230.3	0.46	0.4074	0.264	0.5262	2673	94.2
9	00h01m30s	0.5534	23.998	13.28	1230.1	0.4601	0.4073	0.2642	0.5261	2671	94.2
10	00h01m40s	0.5537	23.998	13.288	1230.4	0.4601	0.4071	0.2642	0.5261	2670	94.1
11	00h01m50s	0.554	23.998	13.295	1230.1	0.46	0.4071	0.2642	0.526	2671	94.1
12	00h02m00s	0.5542	23.998	13.3	1230.3	0.4601	0.407	0.2643	0.526	2669	94.1
13	00h02m10s	0.5545	23.998	13.307	1230.3	0.4602	0.4069	0.2644	0.526	2666	94.1
14	00h02m20s	0.5547	23.998	13.312	1230.8	0.4602	0.407	0.2643	0.526	2668	94.2
15	00h02m30s	0.5549	23.998	13.316	1230.7	0.4601	0.407	0.2643	0.526	2668	94.1
16	00h02m40s	0.5551	23.998	13.321	1230.6	0.4602	0.4069	0.2644	0.526	2667	94.2
17	00h02m50s	0.5553	23.998	13.326	1231.4	0.4603	0.407	0.2644	0.526	2666	94.2
18	00h03m00s	0.5555	23.998	13.331	1229.7	0.4601	0.4069	0.2643	0.5259	2668	94.2
19	00h03m10s	0.5557	23.998	13.336	1230.5	0.4603	0.4069	0.2644	0.526	2666	94.1
20	00h03m20s	0.5559	23.998	13.34	1231.4	0.4601	0.4069	0.2643	0.526	2668	94.2
21	00h03m30s	0.556	23.998	13.343	1230.8	0.4601	0.4067	0.2644	0.5259	2667	94.1

22	00h03m40s	0.5562	23.998	13.348	1231	0.4601	0.4068	0.2643	0.5259	2668	94.1
23	00h03m50s	0.5563	23.998	13.35	1230.5	0.4603	0.4067	0.2645	0.5259	2664	94.1
24	00h04m00s	0.5565	23.998	13.355	1231.1	0.4602	0.4067	0.2645	0.5259	2665	94.1
25	00h04m10s	0.5566	23.998	13.357	1231.4	0.4602	0.4067	0.2645	0.5259	2665	94.1
26	00h04m20s	0.5567	23.998	13.36	1230.8	0.4602	0.4067	0.2645	0.5259	2665	94.2
27	00h04m30s	0.5569	23.998	13.364	1231.2	0.4602	0.4067	0.2645	0.5259	2665	94.1
28	00h04m40s	0.557	23.998	13.367	1231.6	0.4601	0.4066	0.2645	0.5258	2665	94
29	00h04m50s	0.5571	23.998	13.369	1231.1	0.4602	0.4066	0.2646	0.5258	2664	94.1
30	00h05m00s	0.5572	23.998	13.372	1230.7	0.4603	0.4066	0.2646	0.5259	2663	94.1
31	00h05m10s	0.5573	23.998	13.374	1231.3	0.4603	0.4067	0.2645	0.5259	2664	94.2
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33	00h05m30s	0.5575	23.998	13.379	1231.3	0.4602	0.4067	0.2645	0.5259	2664	94.2
34	00h05m40s	0.5576	23.998	13.381	1231.5	0.4603	0.4066	0.2646	0.5259	2662	94.1
35	00h05m50s	0.5577	23.998	13.384	1230.9	0.4601	0.4066	0.2645	0.5258	2665	94.2
36	00h06m00s	0.5577	23.998	13.384	1230.7	0.4603	0.4065	0.2646	0.5259	2662	94.1
37	00h06m10s	0.5578	23.998	13.386	1230.9	0.4601	0.4064	0.2646	0.5258	2663	94.2
38	00h06m20s	0.5579	23.998	13.388	1231.1	0.4603	0.4066	0.2646	0.5259	2663	94.2
39	00h06m30s	0.558	23.998	13.391	1231.6	0.4602	0.4066	0.2645	0.5259	2664	94.2
40	00h06m40s	0.5581	23.998	13.393	1230.6	0.4602	0.4064	0.2646	0.5258	2663	94.1
41	00h06m50s	0.5581	23.998	13.393	1231.3	0.4603	0.4065	0.2646	0.5258	2662	94.1
42	00h07m00s	0.5582	23.998	13.396	1230.7	0.4603	0.4065	0.2646	0.5258	2662	94.1
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44	00h07m20s	0.5583	23.998	13.398	1230	0.4603	0.4064	0.2646	0.5258	2662	94.1
45	00h07m30s	0.5583	23.998	13.398	1230.8	0.4604	0.4065	0.2647	0.5258	2661	94.1
46	00h07m40s	0.5584	23.998	13.4	1231.5	0.4603	0.4063	0.2647	0.5258	2661	94.1
47	00h07m50s	0.5585	23.998	13.403	1230.8	0.4602	0.4065	0.2646	0.5258	2663	94.1
48	00h08m00s	0.5585	23.998	13.403	1231.2	0.4603	0.4065	0.2647	0.5258	2662	94.1
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50	00h08m20s	0.5586	23.998	13.405	1231	0.4604	0.4063	0.2648	0.5258	2659	94.1
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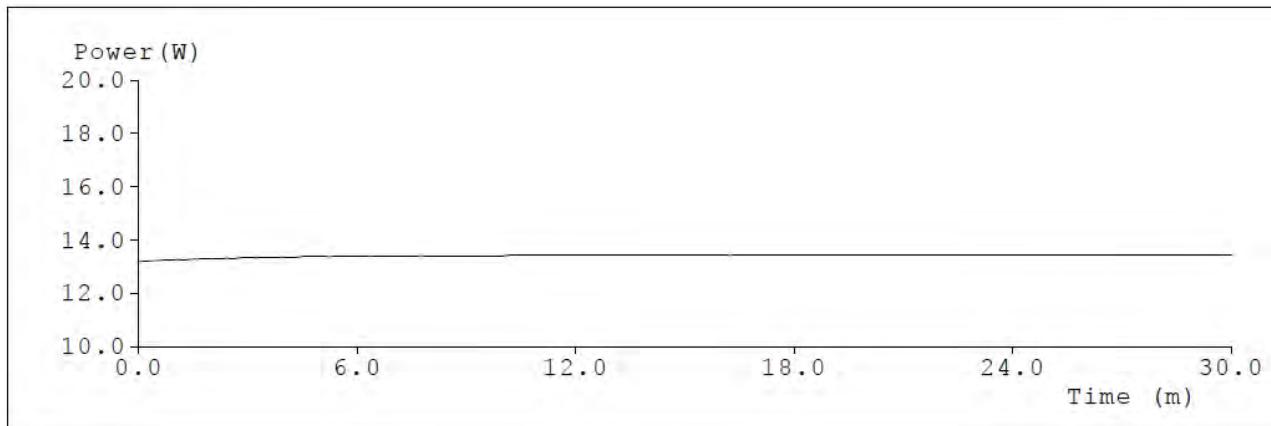
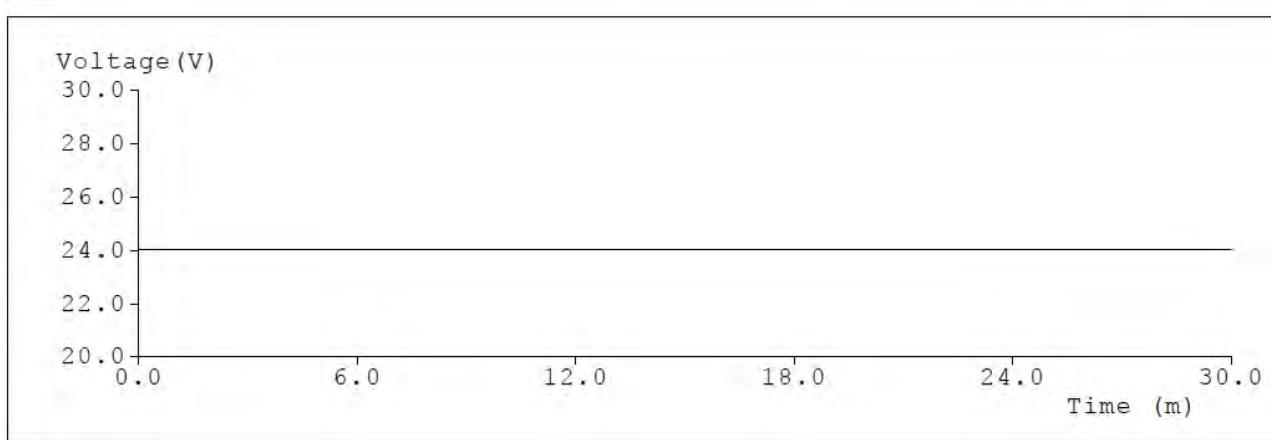
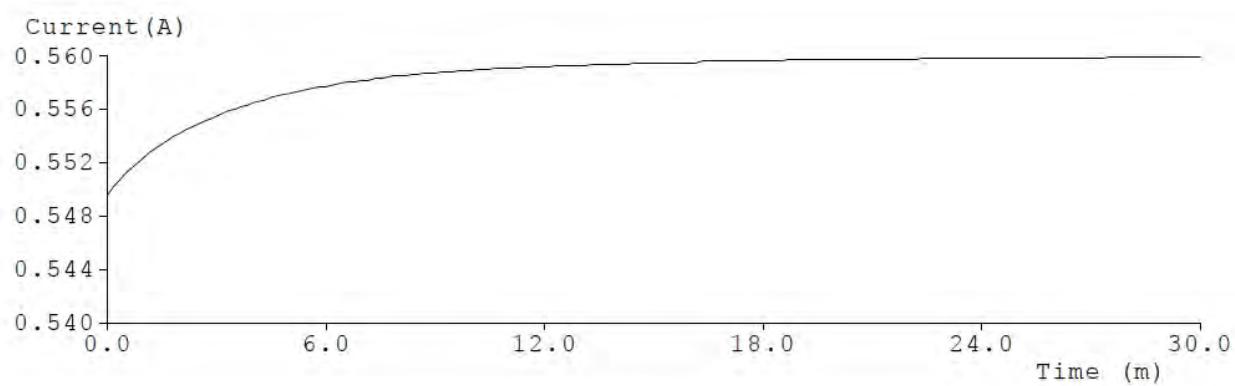
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57	00h09m30s	0.5588	23.998	13.41	1231.2	0.4602	0.4064	0.2646	0.5258	2662	94.1
58	00h09m40s	0.5589	23.998	13.412	1231.4	0.4603	0.4063	0.2647	0.5258	2660	94.1
59	00h09m50s	0.5589	23.998	13.412	1230.7	0.4602	0.4063	0.2647	0.5258	2662	94.1
60	00h10m00s	0.5589	23.998	13.412	1231.4	0.4602	0.4063	0.2647	0.5258	2661	94.1
61	00h10m10s	0.559	23.998	13.415	1230.4	0.4603	0.4064	0.2647	0.5258	2661	94.2
62	00h10m20s	0.559	23.998	13.415	1231.3	0.4604	0.4065	0.2647	0.5258	2660	94.1
63	00h10m30s	0.559	23.998	13.415	1230.6	0.4605	0.4064	0.2648	0.5258	2659	94.1
64	00h10m40s	0.5591	23.998	13.417	1231.2	0.4603	0.4064	0.2647	0.5258	2661	94.2
65	00h10m50s	0.5591	23.998	13.417	1230.9	0.4603	0.4062	0.2648	0.5257	2660	94.1
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67	00h11m10s	0.5591	23.998	13.417	1230.6	0.4603	0.4063	0.2647	0.5258	2661	94.1
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72	00h12m00s	0.5592	23.998	13.42	1230.7	0.4605	0.4063	0.2649	0.5258	2658	94.1
73	00h12m10s	0.5592	23.998	13.42	1231.4	0.4602	0.4063	0.2647	0.5258	2661	94.1
74	00h12m20s	0.5593	23.998	13.422	1232.2	0.4602	0.4063	0.2647	0.5257	2661	94.1
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82	00h13m40s	0.5594	23.998	13.424	1231.6	0.4603	0.4064	0.2647	0.5258	2661	94.1
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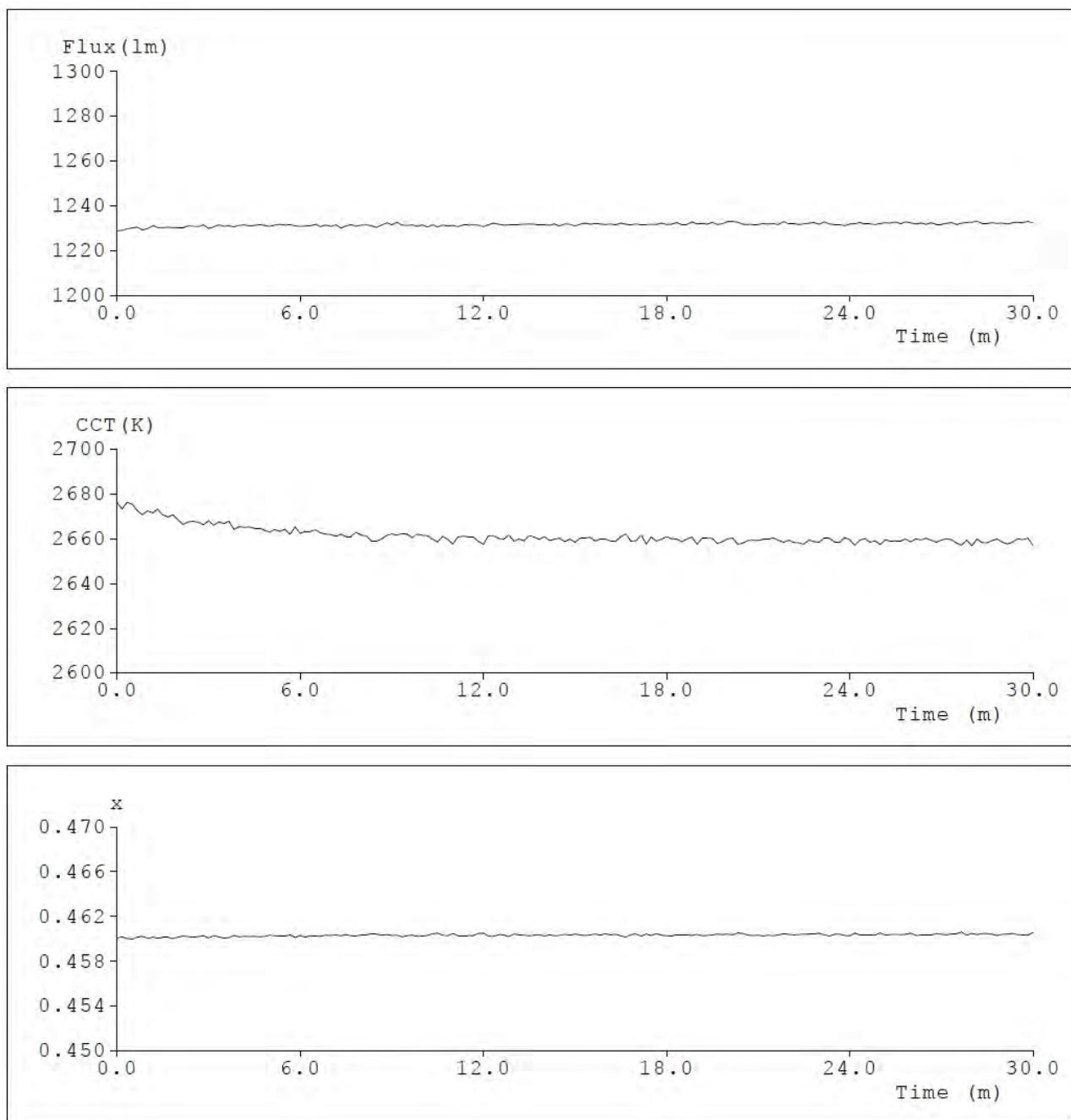
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86	00h14m20s	0.5594	23.998	13.424	1231.8	0.4603	0.4061	0.2648	0.5257	2660	94.1
87	00h14m30s	0.5595	23.998	13.427	1230.9	0.4603	0.4063	0.2647	0.5257	2660	94.1
88	00h14m40s	0.5595	23.998	13.427	1231.7	0.4604	0.4062	0.2648	0.5257	2659	94.1
89	00h14m50s	0.5595	23.998	13.427	1231.6	0.4603	0.4063	0.2648	0.5257	2660	94.1
90	00h15m00s	0.5595	23.998	13.427	1230.9	0.4604	0.4062	0.2648	0.5258	2658	94.1
91	00h15m10s	0.5595	23.998	13.427	1231.7	0.4603	0.4064	0.2647	0.5258	2660	94.1
92	00h15m20s	0.5595	23.998	13.427	1232.2	0.4603	0.4063	0.2647	0.5258	2660	94.1
93	00h15m30s	0.5595	23.998	13.427	1231.6	0.4603	0.4064	0.2647	0.5258	2661	94.1
94	00h15m40s	0.5595	23.998	13.427	1232	0.4604	0.4063	0.2648	0.5258	2659	94.1
95	00h15m50s	0.5595	23.998	13.427	1231.8	0.4603	0.4062	0.2648	0.5257	2660	94.1
96	00h16m00s	0.5595	23.998	13.427	1231.5	0.4604	0.4065	0.2647	0.5258	2660	94.2
97	00h16m10s	0.5595	23.998	13.427	1231.7	0.4603	0.4062	0.2648	0.5257	2659	94.1
98	00h16m20s	0.5596	23.998	13.429	1231.3	0.4604	0.4062	0.2648	0.5258	2659	94.1
99	00h16m30s	0.5596	23.998	13.429	1232.2	0.4603	0.4063	0.2647	0.5257	2661	94.1
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106	00h17m40s	0.5596	23.998	13.429	1231.5	0.4604	0.4064	0.2648	0.5258	2659	94.1
107	00h17m50s	0.5596	23.998	13.429	1232.2	0.4603	0.4062	0.2648	0.5257	2660	94.1
108	00h18m00s	0.5596	23.998	13.429	1231.5	0.4603	0.4063	0.2647	0.5258	2661	94.2
109	00h18m10s	0.5596	23.998	13.429	1231.7	0.4602	0.4061	0.2648	0.5257	2660	94.1
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112	00h18m40s	0.5597	23.998	13.432	1231.5	0.4604	0.4063	0.2648	0.5258	2660	94.1
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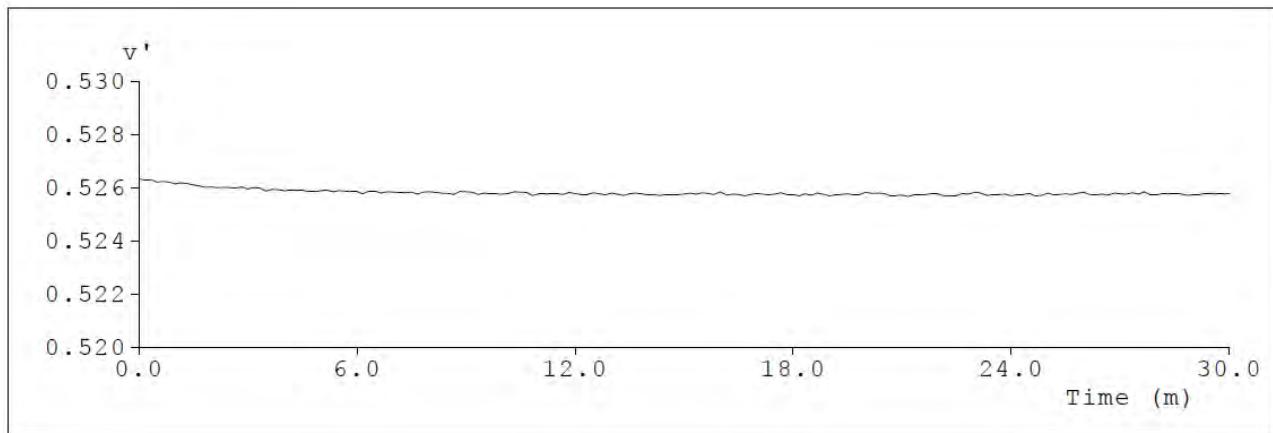
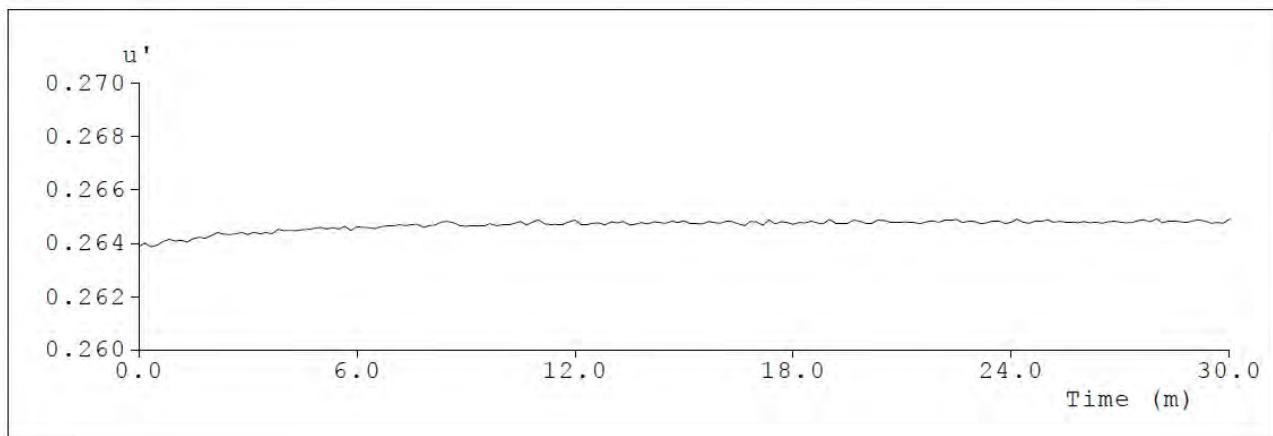
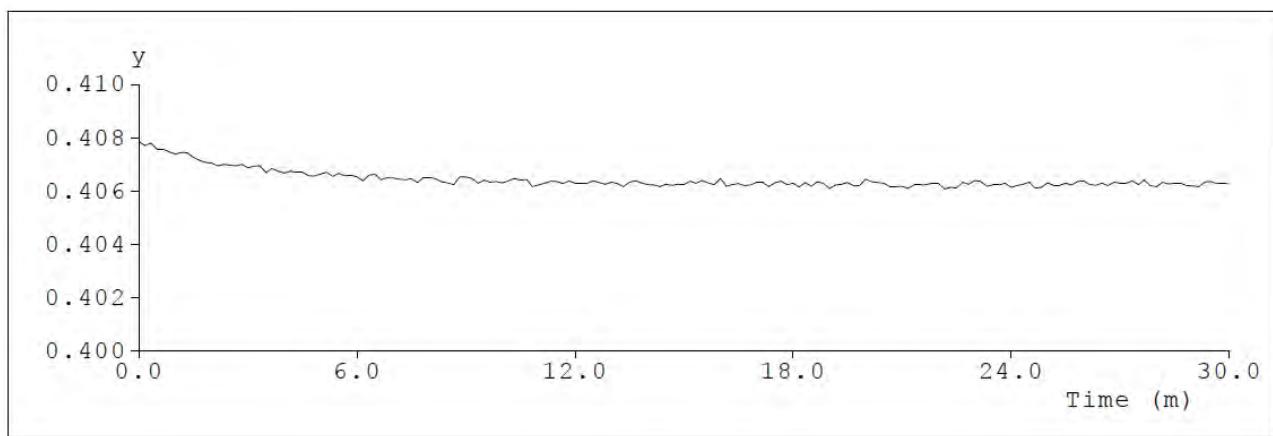
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132	00h22m00s	0.5597	23.998	13.432	1231.9	0.4604	0.4063	0.2648	0.5258	2659	94.1
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135	00h22m30s	0.5598	23.998	13.434	1231.7	0.4604	0.4061	0.2649	0.5257	2657	94.1
136	00h22m40s	0.5598	23.998	13.434	1232.1	0.4604	0.4063	0.2648	0.5258	2659	94.1
137	00h22m50s	0.5598	23.998	13.434	1232.4	0.4604	0.4062	0.2648	0.5258	2659	94.1
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146	00h24m20s	0.5598	23.998	13.434	1232.4	0.4603	0.4062	0.2648	0.5257	2659	94.1
147	00h24m30s	0.5598	23.998	13.434	1231.8	0.4603	0.4063	0.2647	0.5258	2660	94.1
148	00h24m40s	0.5598	23.998	13.434	1231.8	0.4603	0.4061	0.2648	0.5257	2658	94.1
149	00h24m50s	0.5598	23.998	13.434	1231.5	0.4603	0.4061	0.2648	0.5257	2659	94.1
150	00h25m00s	0.5598	23.998	13.434	1232	0.4605	0.4063	0.2649	0.5258	2657	94.1
151	00h25m10s	0.5598	23.998	13.434	1232.3	0.4603	0.4062	0.2648	0.5257	2660	94.1
152	00h25m20s	0.5598	23.998	13.434	1232.1	0.4604	0.4062	0.2648	0.5257	2659	94.1
153	00h25m30s	0.5598	23.998	13.434	1232.7	0.4604	0.4063	0.2648	0.5258	2659	94.1
154	00h25m40s	0.5598	23.998	13.434	1231.9	0.4604	0.4062	0.2648	0.5257	2659	94.1
155	00h25m50s	0.5598	23.998	13.434	1232.7	0.4604	0.4064	0.2648	0.5258	2660	94.2
156	00h26m00s	0.5598	23.998	13.434	1232.2	0.4605	0.4064	0.2648	0.5258	2659	94.1
157	00h26m10s	0.5598	23.998	13.434	1231.8	0.4603	0.4062	0.2648	0.5257	2660	94.1
158	00h26m20s	0.5598	23.998	13.434	1232.2	0.4603	0.4062	0.2648	0.5257	2659	94.1
159	00h26m30s	0.5598	23.998	13.434	1231.7	0.4603	0.4063	0.2647	0.5258	2660	94.1
160	00h26m40s	0.5598	23.998	13.434	1232.3	0.4603	0.4062	0.2648	0.5257	2659	94.1
161	00h26m50s	0.5598	23.998	13.434	1231.6	0.4605	0.4063	0.2648	0.5258	2658	94.2
162	00h27m00s	0.5598	23.998	13.434	1231.7	0.4604	0.4063	0.2648	0.5258	2659	94.1
163	00h27m10s	0.5598	23.998	13.434	1232	0.4603	0.4063	0.2648	0.5258	2660	94.1
164	00h27m20s	0.5598	23.998	13.434	1232.4	0.4604	0.4064	0.2648	0.5258	2660	94.1
165	00h27m30s	0.5599	23.998	13.436	1231.5	0.4604	0.4062	0.2649	0.5258	2658	94.1
166	00h27m40s	0.5599	23.998	13.436	1232.1	0.4606	0.4064	0.2649	0.5259	2657	94.1
167	00h27m50s	0.5599	23.998	13.436	1232.4	0.4603	0.4062	0.2648	0.5257	2659	94.1
168	00h28m00s	0.5599	23.998	13.436	1232.5	0.4605	0.4062	0.2649	0.5257	2657	94
169	00h28m10s	0.5599	23.998	13.436	1233	0.4603	0.4063	0.2648	0.5258	2660	94.1
170	00h28m20s	0.5599	23.998	13.436	1232	0.4604	0.4063	0.2648	0.5258	2658	94.1
171	00h28m30s	0.5599	23.998	13.436	1232	0.4605	0.4063	0.2648	0.5258	2658	94.1
172	00h28m40s	0.5599	23.998	13.436	1232.3	0.4604	0.4063	0.2648	0.5258	2659	94.1
173	00h28m50s	0.5599	23.998	13.436	1232	0.4603	0.4062	0.2648	0.5257	2660	94.1
174	00h29m00s	0.5599	23.998	13.436	1232.2	0.4604	0.4062	0.2648	0.5257	2658	94.1
175	00h29m10s	0.5599	23.998	13.436	1231.8	0.4604	0.4062	0.2649	0.5257	2658	94.1
176	00h29m20s	0.5599	23.998	13.436	1232.3	0.4605	0.4063	0.2648	0.5258	2658	94.1

177	00h29m30s	0.5599	23.998	13.436	1232.5	0.4604	0.4063	0.2647	0.5258	2660	94.1
178	00h29m40s	0.5599	23.998	13.436	1232.3	0.4603	0.4063	0.2648	0.5258	2660	94.1
179	00h29m50s	0.5599	23.998	13.436	1233	0.4603	0.4063	0.2647	0.5258	2660	94.1
180	00h30m00s	0.5599	23.998	13.436	1232.1	0.4605	0.4063	0.2649	0.5258	2657	94.1

Test curves





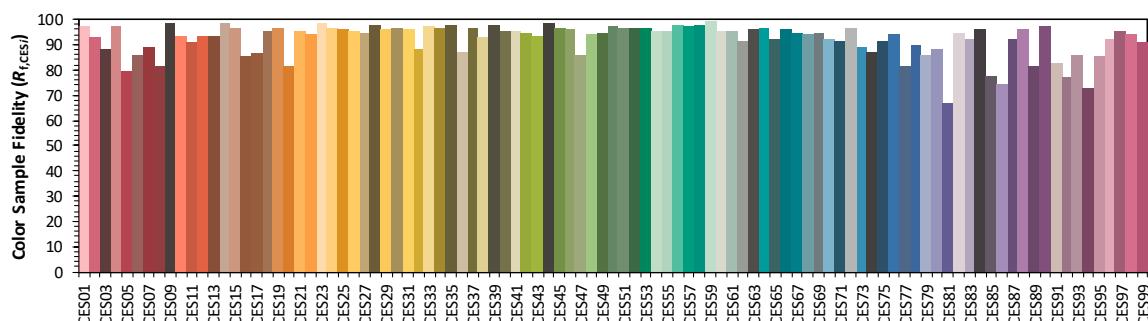
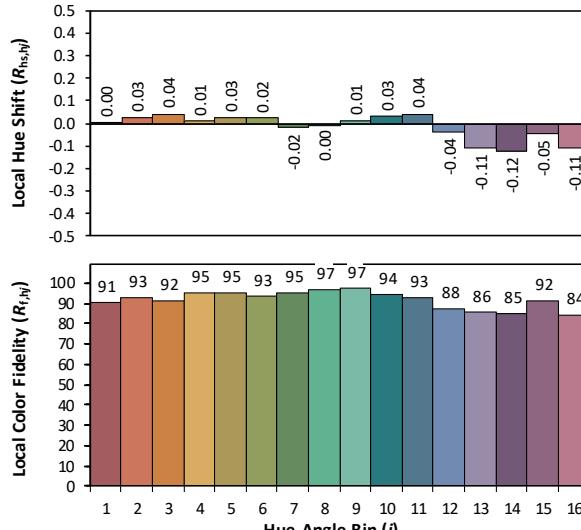
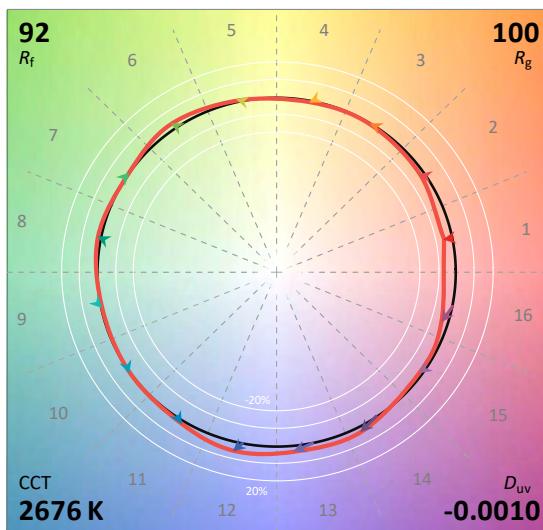
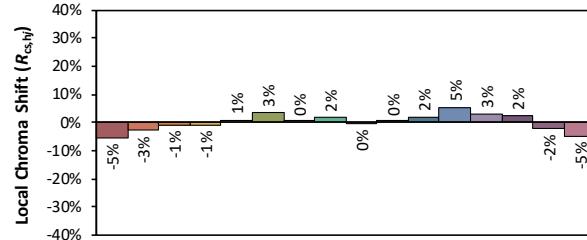
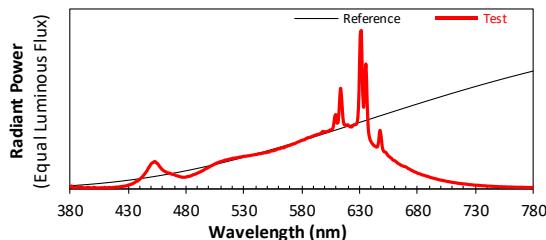
13.2 ANSI/IES TM-30-18 Color Rendition Report*ANSI/IES TM-30-18 Color Rendition Report**

Source:

Manufacturer:

Date: 2023/10/19

Model: LSXWY-1000-L27-DF-I-15

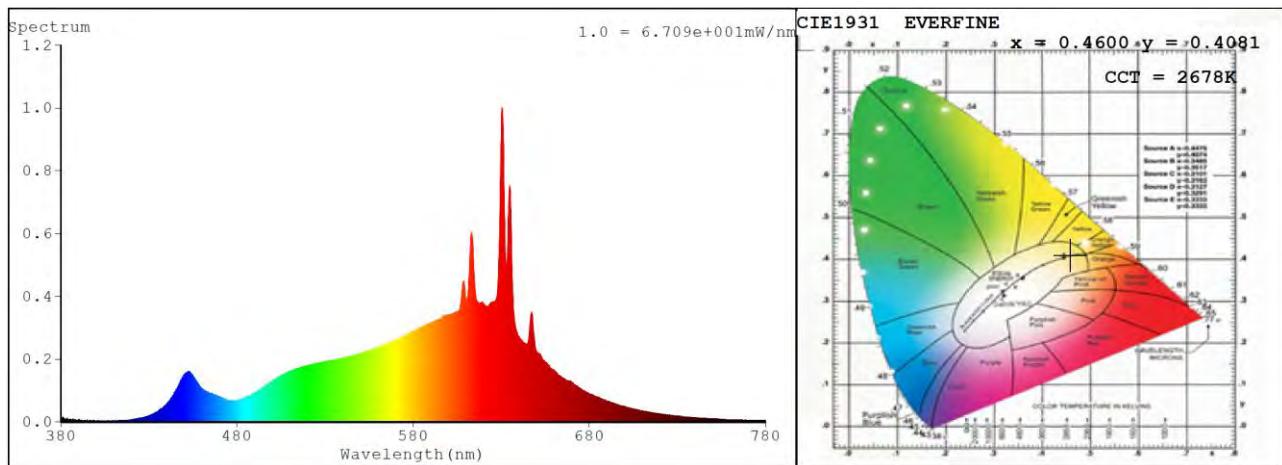


Notes: This is a recommended method for displaying ANSI/IES TM-30-18 information.

 $x = 0.4601$ $y = 0.4080$ $u' = 0.2638$ $v' = 0.5264$ CIE 13.3-1995
(CRI) $R_a = 94$ $R_g = 58$

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

13.3 Relative Spectral Power Distribution



nm	mW								
380	0.0072	414	0.0051	448	0.1298	482	0.0716	516	0.1732
381	0.0144	415	0.0032	449	0.1406	483	0.0725	517	0.1745
382	0.0067	416	0.0045	450	0.1501	484	0.0759	518	0.1759
383	0.0033	417	0.0058	451	0.1538	485	0.0779	519	0.177
384	0.0053	418	0.0056	452	0.1585	486	0.082	520	0.1805
385	0.0071	419	0.0066	453	0.1606	487	0.0835	521	0.1804
386	0.0052	420	0.0074	454	0.1524	488	0.0857	522	0.1818
387	0.0096	421	0.0071	455	0.1486	489	0.0898	523	0.1826
388	0.0082	422	0.0083	456	0.1393	490	0.0925	524	0.1839
389	0.0046	423	0.0098	457	0.1293	491	0.0953	525	0.1854
390	0.0069	424	0.0112	458	0.1213	492	0.0994	526	0.1874
391	0.0035	425	0.0117	459	0.1131	493	0.1021	527	0.1876
392	0.002	426	0.0123	460	0.1074	494	0.1055	528	0.189
393	0.0038	427	0.0139	461	0.1024	495	0.1094	529	0.1908
394	0.0036	428	0.0147	462	0.0993	496	0.1145	530	0.1924
395	0.0067	429	0.0169	463	0.0954	497	0.1198	531	0.1927
396	0.0027	430	0.0199	464	0.0925	498	0.1204	532	0.193
397	0.004	431	0.0211	465	0.0913	499	0.1255	533	0.1952
398	0.0012	432	0.0243	466	0.09	500	0.1289	534	0.1952
399	0.0032	433	0.0257	467	0.0855	501	0.134	535	0.1968
400	0.003	434	0.0299	468	0.0838	502	0.136	536	0.1976
401	0.0045	435	0.0327	469	0.083	503	0.1401	537	0.1993
402	0.0028	436	0.0389	470	0.0797	504	0.1444	538	0.2005
403	0.0027	437	0.042	471	0.0764	505	0.1467	539	0.2016
404	0.0023	438	0.0441	472	0.0755	506	0.1517	540	0.2028
405	0.0027	439	0.0504	473	0.0721	507	0.1522	541	0.2032
406	0.0031	440	0.0558	474	0.0704	508	0.1567	542	0.207
407	0.0024	441	0.0631	475	0.0688	509	0.1589	543	0.2077
408	0.0043	442	0.0693	476	0.0663	510	0.1604	544	0.2073
409	0.0019	443	0.0777	477	0.0666	511	0.1637	545	0.2099
410	0.0028	444	0.0864	478	0.0664	512	0.1642	546	0.2105
411	0.004	445	0.0963	479	0.067	513	0.169	547	0.2126
412	0.0036	446	0.1056	480	0.0683	514	0.1699	548	0.2136
413	0.0044	447	0.1192	481	0.0706	515	0.1704	549	0.2139

nm	mW								
550	0.2177	599	0.3385	648	0.3163	697	0.0539	746	0.0113
551	0.2167	600	0.3391	649	0.2515	698	0.0518	747	0.0108
552	0.2202	601	0.3401	650	0.2257	699	0.0495	748	0.0107
553	0.2238	602	0.3421	651	0.2174	700	0.0488	749	0.0101
554	0.2239	603	0.345	652	0.2169	701	0.0473	750	0.0099
555	0.2253	604	0.3496	653	0.2067	702	0.0461	751	0.0091
556	0.2282	605	0.3504	654	0.1965	703	0.0447	752	0.0097
557	0.2287	606	0.3548	655	0.1902	704	0.0429	753	0.0092
558	0.2333	607	0.3757	656	0.1848	705	0.0416	754	0.0084
559	0.236	608	0.4276	657	0.1799	706	0.04	755	0.0089
560	0.2364	609	0.4413	658	0.1718	707	0.0397	756	0.0085
561	0.2382	610	0.3905	659	0.1671	708	0.0378	757	0.0079
562	0.2424	611	0.3979	660	0.1651	709	0.0361	758	0.0077
563	0.244	612	0.4911	661	0.159	710	0.0356	759	0.0075
564	0.2422	613	0.5985	662	0.1531	711	0.0342	760	0.0076
565	0.2465	614	0.5388	663	0.1478	712	0.0334	761	0.0075
566	0.251	615	0.43	664	0.1444	713	0.0326	762	0.0068
567	0.2524	616	0.3846	665	0.1393	714	0.0306	763	0.007
568	0.2552	617	0.3788	666	0.1363	715	0.0299	764	0.0066
569	0.2572	618	0.3762	667	0.1333	716	0.0289	765	0.0063
570	0.2594	619	0.3811	668	0.1307	717	0.0285	766	0.0064
571	0.2622	620	0.3769	669	0.1293	718	0.0269	767	0.0065
572	0.2656	621	0.3698	670	0.1259	719	0.0267	768	0.006
573	0.2668	622	0.368	671	0.121	720	0.0263	769	0.0061
574	0.2692	623	0.3691	672	0.1165	721	0.0248	770	0.0055
575	0.2736	624	0.378	673	0.1141	722	0.0247	771	0.0056
576	0.2771	625	0.3803	674	0.1084	723	0.0236	772	0.0055
577	0.2787	626	0.3819	675	0.106	724	0.0222	773	0.0053
578	0.2825	627	0.3882	676	0.1021	725	0.0217	774	0.0048
579	0.2858	628	0.4242	677	0.0985	726	0.0214	775	0.0051
580	0.2877	629	0.5858	678	0.0967	727	0.0207	776	0.0049
581	0.2904	630	0.9111	679	0.0927	728	0.0189	777	0.0048
582	0.291	631	0.9423	680	0.0889	729	0.0192	778	0.0048
583	0.297	632	0.6152	681	0.0877	730	0.0187	779	0.005
584	0.3005	633	0.4854	682	0.0854	731	0.0183	780	0.005
585	0.3036	634	0.6281	683	0.0821	732	0.0183		
586	0.3059	635	0.7427	684	0.0797	733	0.0169		
587	0.3056	636	0.5214	685	0.0782	734	0.0166		
588	0.3098	637	0.3554	686	0.0763	735	0.0161		
589	0.3124	638	0.3065	687	0.0738	736	0.0152		
590	0.3157	639	0.2846	688	0.0715	737	0.0152		
591	0.3185	640	0.2726	689	0.0704	738	0.0149		
592	0.3195	641	0.263	690	0.0665	739	0.0143		
593	0.3232	642	0.2558	691	0.0644	740	0.0131		
594	0.324	643	0.2514	692	0.0624	741	0.0132		
595	0.3262	644	0.2469	693	0.0614	742	0.0128		
596	0.3291	645	0.2512	694	0.0587	743	0.0125		
597	0.3366	646	0.284	695	0.0581	744	0.0121		
598	0.3411	647	0.3463	696	0.0548	745	0.0118		

14. Goniophotometer Test results for LSXWY-1000-L27-DF-I-15

14.1 Test Data

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

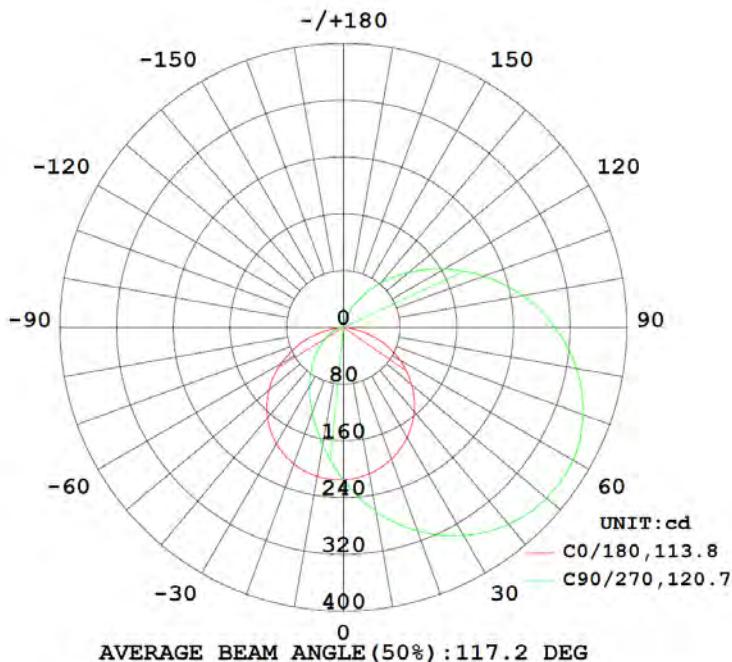
Electrical Measurement

Input Voltage (V)	Frequency (Hz)	Input Current(A)	Power Factor	Power(W)
24.002	--	0.5647	1.0000	13.554

Optical Measurement

Luminous Flux (lm)	Efficacy(lm/W)	I_{max} (cd)	η up (%)	η down (%)
1264.28	93.28	375.6	22.7	77.3

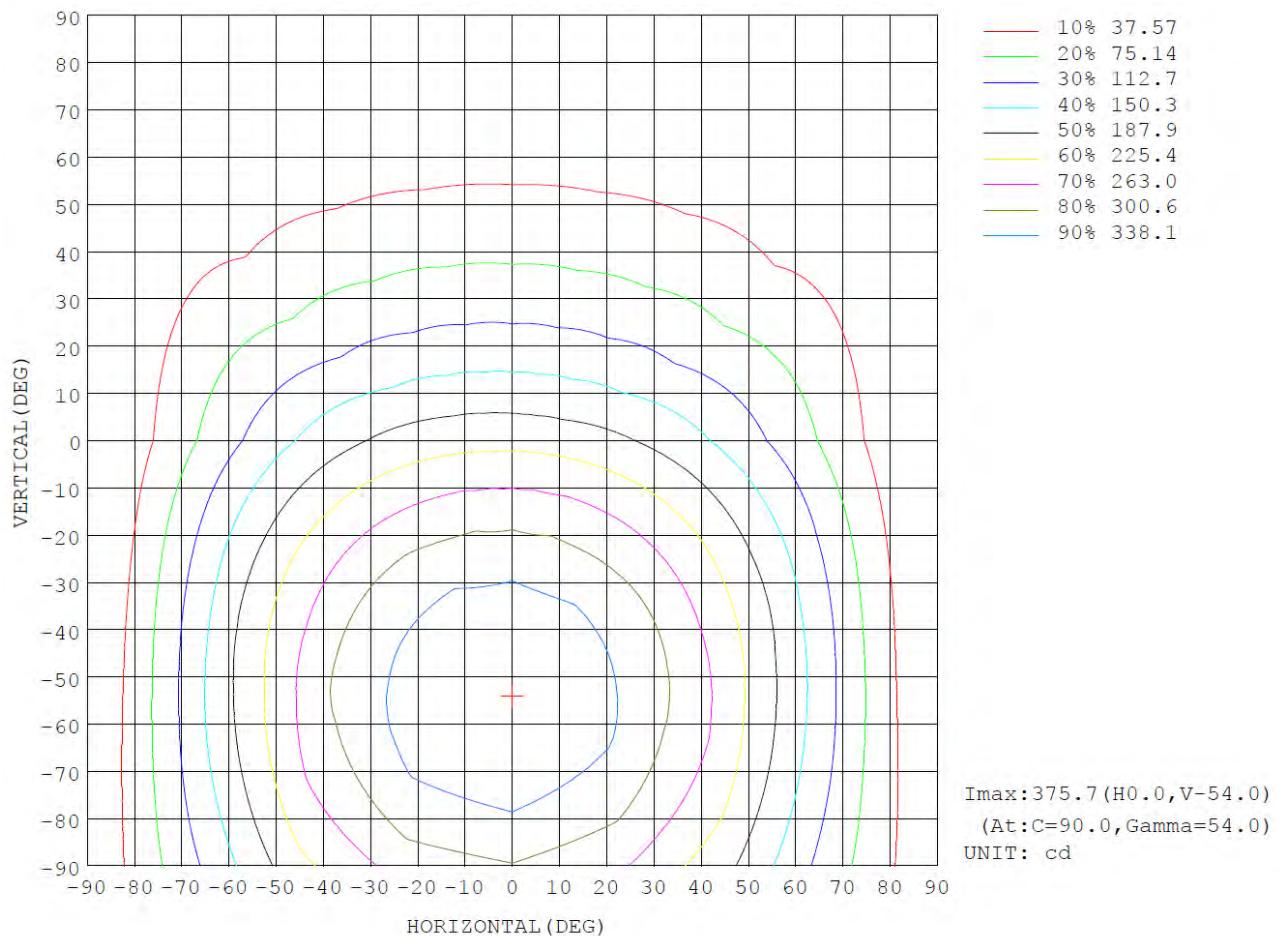
14.2 Luminous Intensity Distribution



14.3 Zonal Flux Diagram

γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	ϕ zone	ϕ total	%lum,lamp
10	209.6	245.7	262.7	248.7	213.4	181.1	168.7	178.9	0- 10	20.45	20.45	1.62, 1.62
20	197.7	270.5	305.0	277.3	204.9	147.3	128.9	143.7	10- 20	59.97	80.42	6.36, 6.36
30	179.5	287.6	338.9	297.9	189.4	114.9	95.80	110.9	20- 30	95.22	175.6	13.9, 13.9
40	155.3	295.3	362.4	309.9	166.8	84.80	68.00	80.94	30- 40	123.3	299.0	23.6, 23.6
50	125.5	294.1	374.4	311.9	137.4	57.69	45.41	54.56	40- 50	141.8	440.8	34.9, 34.9
60	91.87	284.2	374.3	304.0	101.7	34.31	27.89	32.71	50- 60	149.3	590.0	46.7, 46.7
70	54.15	263.1	359.7	283.4	61.94	17.40	15.22	16.40	60- 70	145.3	735.3	58.2, 58.2
80	18.35	233.7	333.7	253.3	21.73	6.680	6.479	6.048	70- 80	131.1	866.4	68.5, 68.5
90	1.257	198.7	298.2	216.3	1.319	0.9585	1.209	0.7100	80- 90	111.0	977.4	77.3, 77.3
100	1.528	161.9	256.4	176.7	1.434	0.4493	0.5762	0.4347	90-100	91.28	1069	84.5, 84.5
110	1.431	126.3	210.8	137.8	1.239	0.3925	0.4896	0.3847	100-110	71.62	1140	90.2, 90.2
120	1.169	93.80	164.6	102.5	1.054	0.3907	0.4633	0.4252	110-120	52.23	1193	94.3, 94.3
130	0.9754	65.42	121.1	71.54	0.9094	0.4876	0.4872	0.5333	120-130	34.99	1228	97.1, 97.1
140	0.7860	41.85	81.09	45.83	0.7555	0.5613	0.5246	0.5954	130-140	20.90	1248	98.7, 98.7
150	0.6066	23.40	47.11	25.69	0.6193	0.5783	0.5689	0.5880	140-150	10.61	1259	99.6, 99.6
160	0.5018	10.29	21.31	10.29	0.5360	0.5348	0.5554	0.5322	150-160	4.139	1263	99.9, 99.9
170	0.5125	1.781	5.031	1.848	0.5495	0.5556	0.5033	0.4992	160-170	0.9800	1264	100, 100
180	0.5460	0.5426	0.3885	0.4530	0.5421	0.5387	0.5233	0.4473	170-180	0.0770	1264	100, 100
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

14.4 Isocandela Diagram



14.5 Luminous Distribution Intensity Data

Table--1

γ (DEG)	C (DEG)	UNIT: cd																
0	215	215	215	215	215	215	215	215	215	215	215	215	215	215	215	215	215	
5	213	223	231	237	239	238	232	224	215	206	198	193	191	192	197	204		
10	210	229	246	258	263	260	249	232	213	195	181	172	169	171	179	192		
15	205	233	259	277	285	280	264	239	210	184	164	152	148	151	161	179		
20	198	236	271	295	305	299	277	244	205	171	147	134	129	132	144	166		
25	189	237	280	310	323	316	289	246	198	157	131	117	112	115	127	151		
30	180	236	288	324	339	330	298	248	189	143	115	101	95.8	98.8	111	136		
35	168	233	292	334	352	342	305	247	179	128	99.5	85.9	81.2	84.0	95.5	121		
40	155	228	295	342	362	351	310	244	167	112	84.8	72.2	68.0	70.4	80.9	105		
45	141	222	296	348	370	358	312	239	153	96.1	70.8	59.7	56.1	58.1	67.3	89.7		
50	125	214	294	350	374	362	312	231	137	80.3	57.7	48.3	45.4	47.0	54.6	74.4		
55	109	203	290	350	376	362	309	222	120	64.8	45.7	38.0	36.0	37.2	43.0	59.7		
60	91.9	192	284	347	374	360	304	211	102	50.0	34.3	29.3	27.9	28.6	32.7	45.7		
65	73.5	179	275	341	369	354	295	197	82.1	36.3	25.2	21.8	20.9	21.3	23.7	33.0		
70	54.2	163	263	331	360	344	283	181	61.9	24.1	17.4	15.7	15.2	15.3	16.4	21.8		
75	35.7	146	249	319	348	332	270	164	41.7	13.9	11.3	10.7	10.4	10.3	10.6	12.8		
80	18.4	128	234	304	334	317	253	145	21.7	7.06	6.68	6.61	6.48	6.24	6.05	6.33		
85	4.95	110	217	287	317	300	235	125	7.00	2.77	3.18	3.39	3.38	3.06	2.63	2.27		
90	1.26	92.7	199	269	298	281	216	106	1.32	0.54	0.96	1.21	1.21	1.03	0.71	0.36		
95	1.55	77.4	180	250	278	261	197	89.2	1.02	0.30	0.46	0.59	0.68	0.58	0.45	0.29		
100	1.53	64.3	162	229	256	239	177	74.5	1.43	0.32	0.45	0.55	0.58	0.54	0.43	0.30		
105	1.48	53.5	144	208	234	217	157	62.2	1.35	0.31	0.43	0.52	0.58	0.52	0.42	0.35		
110	1.43	44.5	126	186	211	195	138	51.9	1.24	0.32	0.39	0.47	0.49	0.46	0.38	0.47		
115	1.26	36.8	110	165	188	172	120	43.0	1.13	0.41	0.38	0.45	0.48	0.45	0.39	0.60		
120	1.17	30.3	93.8	144	165	150	102	35.5	1.05	0.50	0.39	0.45	0.46	0.44	0.43	0.70		
125	1.07	24.8	79.1	124	142	129	86.4	29.2	1.00	0.59	0.45	0.48	0.48	0.47	0.50	0.77		
130	0.98	20.0	65.4	105	121	109	71.5	23.6	0.91	0.63	0.49	0.49	0.49	0.48	0.53	0.78		
135	0.88	16.0	53.0	86.3	100	90.0	57.9	17.9	0.83	0.64	0.53	0.51	0.50	0.50	0.57	0.76		
140	0.79	12.5	41.9	69.2	81.1	72.3	45.8	14.3	0.76	0.65	0.56	0.52	0.52	0.52	0.60	0.74		
145	0.67	9.43	31.9	53.7	63.2	56.1	35.0	11.1	0.68	0.64	0.59	0.56	0.55	0.54	0.60	0.71		
150	0.61	6.73	23.4	39.7	47.1	41.6	25.7	7.97	0.62	0.60	0.58	0.59	0.57	0.55	0.59	0.67		
155	0.55	4.35	16.2	27.7	32.9	29.1	17.9	4.94	0.58	0.57	0.56	0.59	0.57	0.55	0.56	0.62		
160	0.50	2.32	10.3	17.8	21.3	18.8	10.3	2.69	0.54	0.53	0.53	0.54	0.56	0.53	0.53	0.57		
165	0.49	0.82	5.33	10.0	12.1	10.6	5.31	1.13	0.50	0.50	0.51	0.53	0.56	0.52	0.51	0.53		
170	0.51	0.52	1.78	3.86	5.03	3.64	1.85	0.50	0.55	0.55	0.56	0.57	0.50	0.51	0.50	0.52		
175	0.53	0.53	0.54	0.59	0.67	0.55	0.45	0.45	0.55	0.55	0.55	0.55	0.49	0.48	0.49			
180	0.55	0.54	0.54	0.53	0.39	0.44	0.45	0.46	0.54	0.54	0.54	0.52	0.41	0.45	0.45			

15. Photo of sample

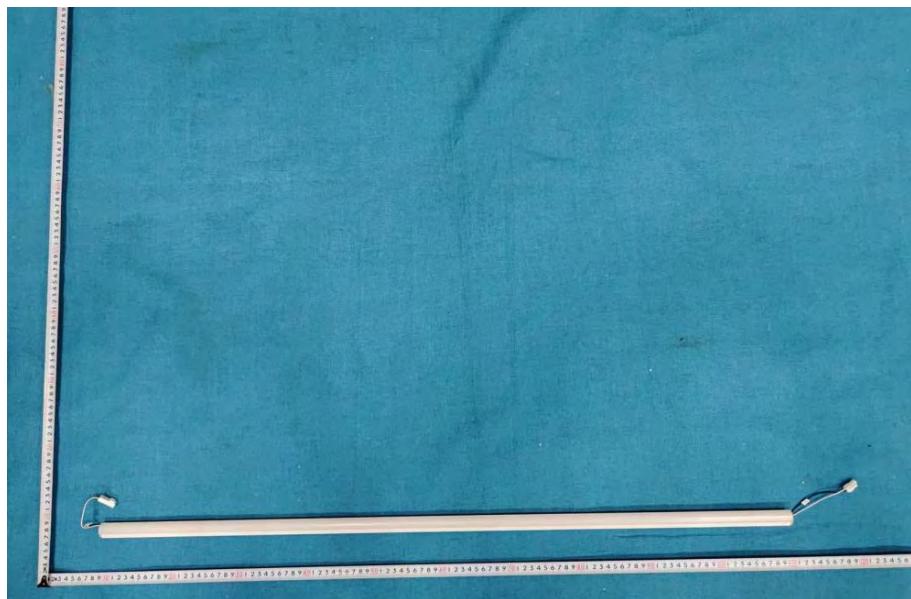


Figure 1 Overview

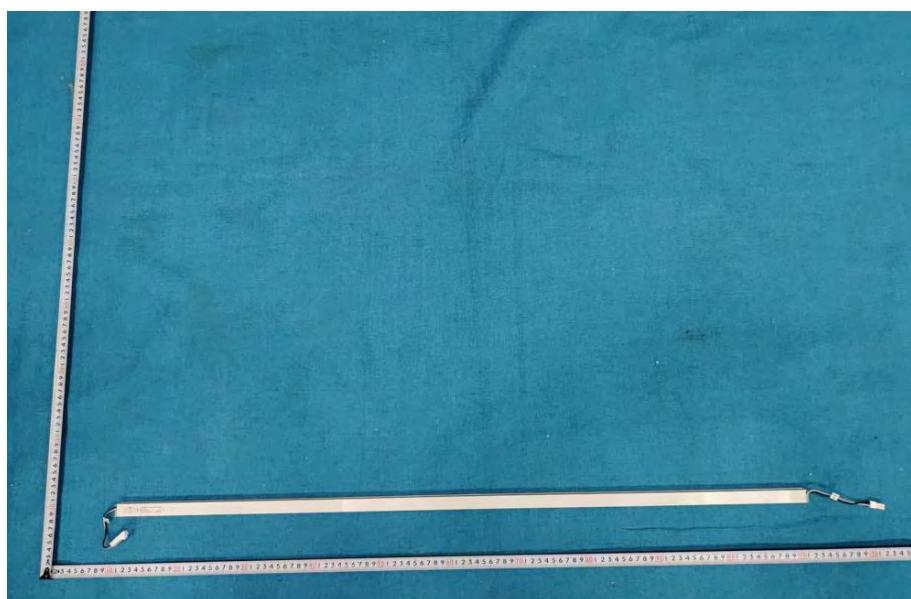


Figure 2 Overview

---End of Report---