



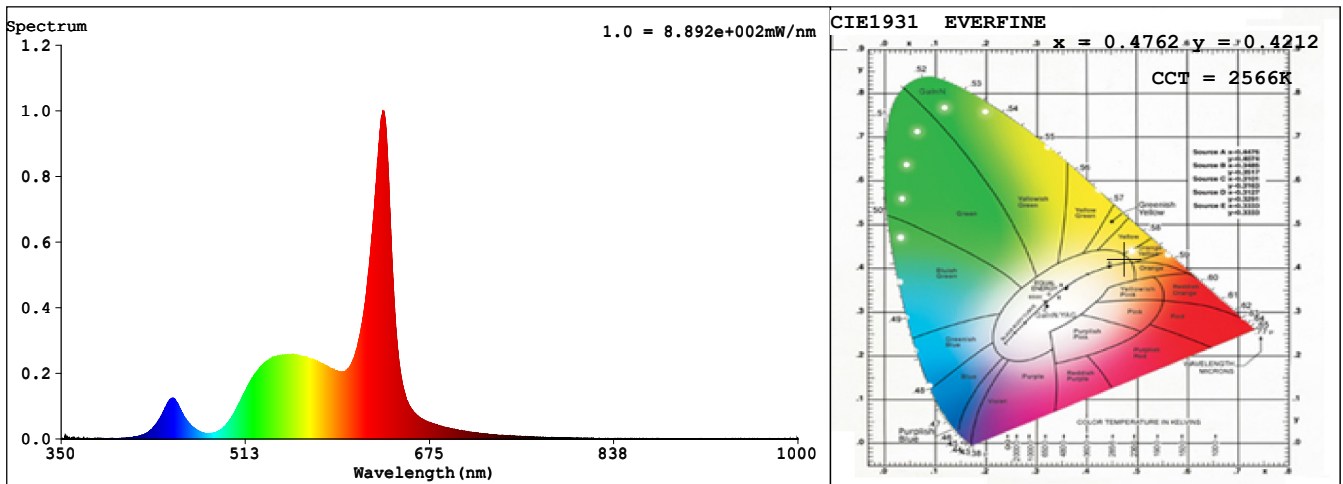
# Spectrum Test Report

Sample	:	Date	: 2024-02-19 18:01:39
Specification	: SERA	Sam. Status	:
Sample No.	: 2500K	Instrument	: HAAS-2000(EVERFINE)
Manufacturer	: CLF	Test by	: DANNY
		Assessor	: damin

## Test Condition

Temperature	: 28Deg	RH	: 65.0%
WL Range	: 350nm-1000nm	IP	: 52725 (80%)
Test Mode	: Fast Test	T	: 30 ms
		Sensitivity	: High

## Spectrum



## Colorimetric Parameters

Chromaticity Coordinate:  $x = 0.4762$   $y = 0.4212$  /  $u' = 0.2682$   $v' = 0.5338$  ( $duv=2.66e-03$ )

CCT= 2566K Prcp WL:  $L_d=584.1nm$  Purity=69.4%

Peak WL:  $L_p=634nm$  FWHM: =21.6nm Ratio:R=29.4% G=69.5% B=1.1%

Render Index:  $R_a = 84.6$

R1 =88 R2 =96 R3 =72 R4 =80 R5 =92 R6 =95 R7 =83

R8 =72 R9 =58 R10=83 R11=78 R12=76 R13=92 R14=81 R15=85

LEVEL:OUT WHITE:OUT

TLCI Parameters: TLCI = 70.7

## Photometric & Radiometric Parameters

Flux = 15815 lm Eff. : 48.76 lm/W  $F_e = 48.831 W$

## Electrical parameters

$V = 239.9 V$   $I = 1.423 A$   $P = 324.4 W$  PF = 0.9499

Freq=50.00 Hz



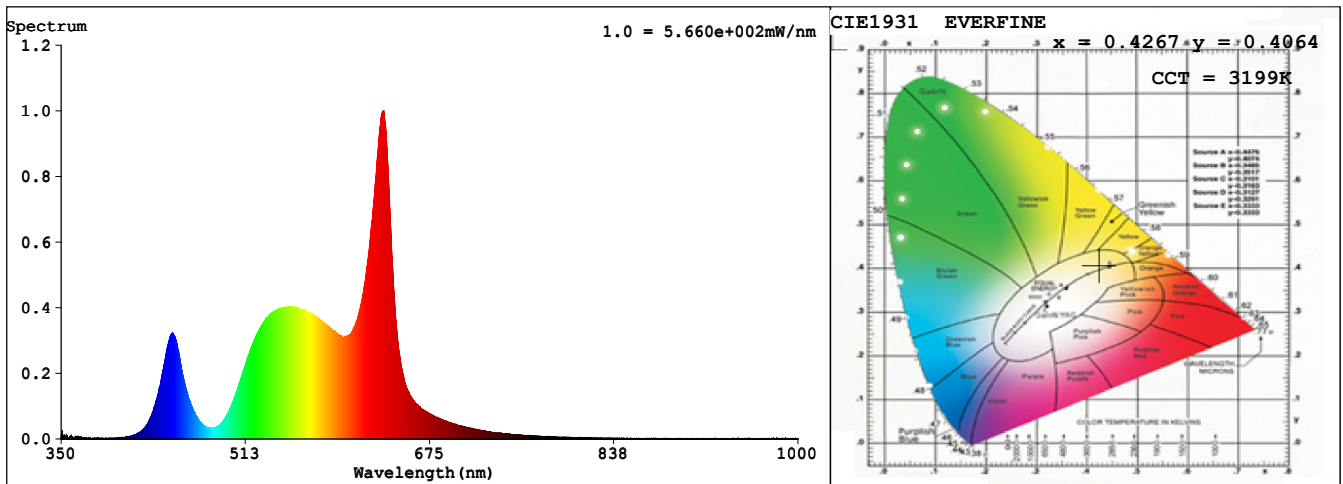
# Spectrum Test Report

Sample	:	Date	: 2024-02-19 18:02:22
Specification	: SERA	Sam. Status	:
Sample No.	: 3200K	Instrument	: HAAS-2000(EVERFINE)
Manufacturer	: CLF	Test by	: DANNY
		Assessor	: damin

## Test Condition

Temperature	: 28Deg	RH	: 65.0%
WL Range	: 350nm-1000nm	IP	: 55834 (85%)
Test Mode	: Fast Test	T	: 50 ms
		Sensitivity	: High

## Spectrum



## Colorimetric Parameters

Chromaticity Coordinate:  $x = 0.4267$   $y = 0.4064$  /  $u' = 0.2430$   $v' = 0.5208$  ( $duv=2.49e-03$ )

CCT= 3199K Prcp WL:  $L_d=581.1nm$  Purity=50.1%

Peak WL:  $L_p=635nm$  FWHM: =23.8nm Ratio:R=23.4% G=75.1% B=1.5%

Render Index:  $R_a = 86.6$

R1 =97 R2 =88 R3 =73 R4 =88 R5 =92 R6 =82 R7 =86

R8 =87 R9 =91 R10=67 R11=89 R12=57 R13=94 R14=83 R15=98

LEVEL:OUT WHITE:ANSI\_3000K

TLCI Parameters: TLCI = 72.7

## Photometric & Radiometric Parameters

Flux = 14550 lm Eff. : 49.52 lm/W  $F_e = 43.586 W$

## Electrical parameters

$V = 239.9 V$   $I = 1.303 A$   $P = 293.8 W$  PF = 0.9398

Freq=50.01 Hz



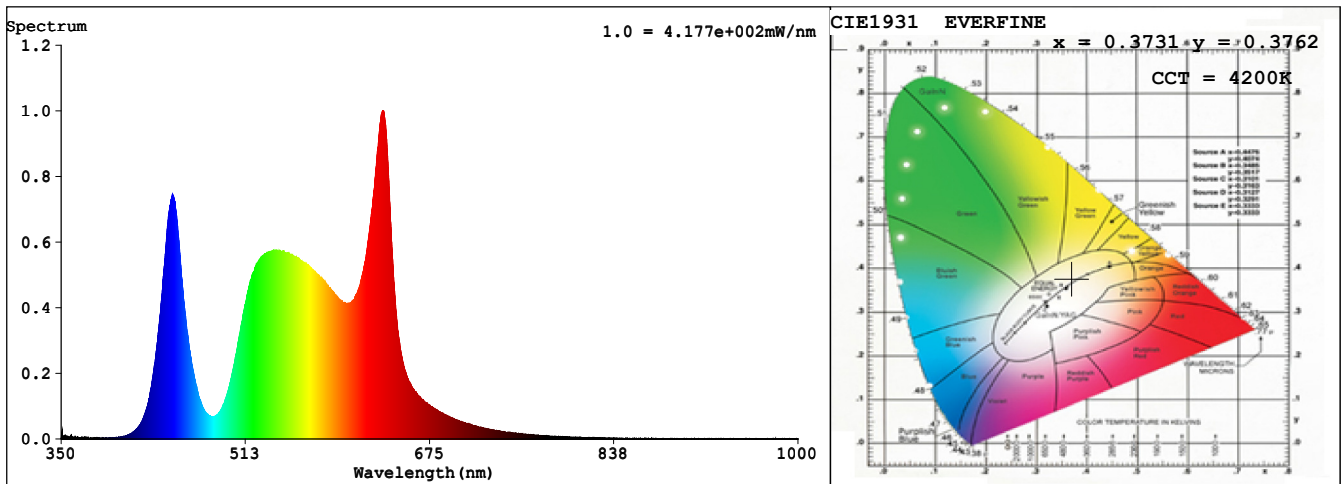
# Spectrum Test Report

Sample	:	Date	: 2024-02-19 18:02:56
Specification	: SERA	Sam. Status	:
Sample No.	: 4200K	Instrument	: HAAS-2000(EVERFINE)
Manufacturer	: CLF	Test by	: DANNY
		Assessor	: damin

## Test Condition

Temperature	: 28Deg	RH	: 65.0%
WL Range	: 350nm-1000nm	IP	: 41391 (63%)
Test Mode	: Fast Test	T	: 50 ms
		Sensitivity	: High

## Spectrum



## Colorimetric Parameters

Chromaticity Coordinate:  $x = 0.3731$   $y = 0.3762$  /  $u' = 0.2205$   $v' = 0.5003$  ( $duv=1.95e-03$ )

CCT= 4200K Prcp WL:  $L_d=577.1\text{nm}$  Purity=24.9%

Peak WL:  $L_p=634\text{nm}$  FWHM: =27.4nm Ratio:R=19.0% G=78.6% B=2.4%

Render Index:  $R_a = 85.1$

R1 =93 R2 =85 R3 =74 R4 =86 R5 =89 R6 =78 R7 =86

R8 =90 R9 =94 R10=61 R11=86 R12=53 R13=89 R14=84 R15=95

LEVEL:OUT WHITE:ANSI\_4000K

TLCI Parameters: TLCI = 74.1

## Photometric & Radiometric Parameters

Flux = 14895 lm Eff. : 48.63 lm/W  $F_e = 45.562 \text{ W}$

## Electrical parameters

$V = 239.9 \text{ V}$   $I = 1.352 \text{ A}$   $P = 306.3 \text{ W}$  PF = 0.9441

Freq=50.01 Hz



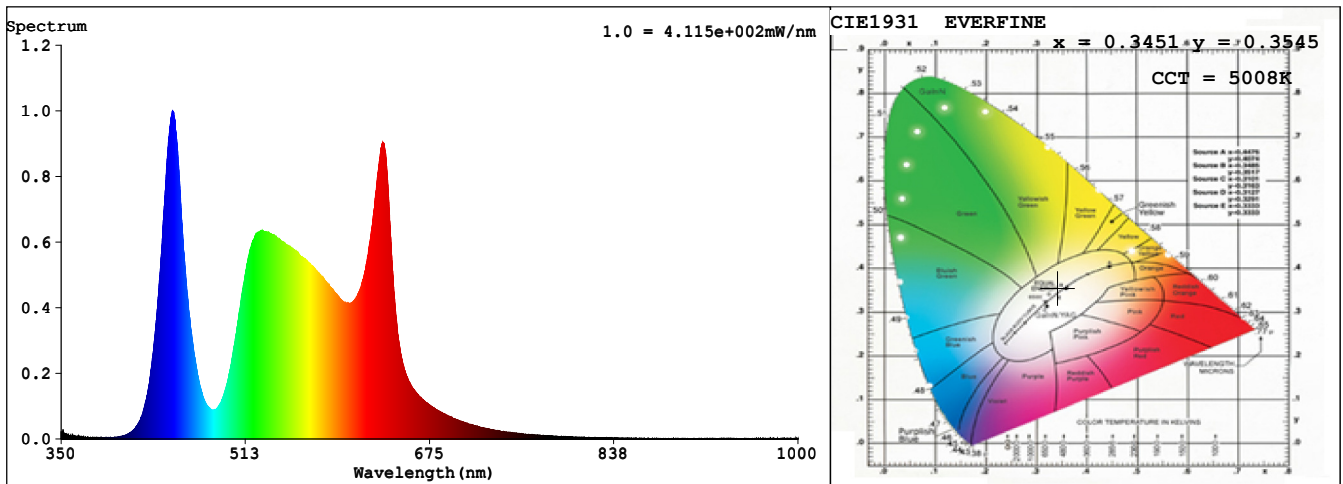
# Spectrum Test Report

Sample	:	Date	: 2024-02-19 18:03:25
Specification	: SERA	Sam. Status	:
Sample No.	: 5000K	Instrument	: HAAS-2000(EVERFINE)
Manufacturer	: CLF	Test by	: DANNY
		Assessor	: damin

## Test Condition

Temperature	: 28Deg	RH	: 65.0%
WL Range	: 350nm-1000nm	IP	: 54564 (83%)
Test Mode	: Fast Test	T	: 74 ms
		Sensitivity	: High

## Spectrum



## Colorimetric Parameters

Chromaticity Coordinate:  $x = 0.3451$   $y = 0.3545$  /  $u' = 0.2103$   $v' = 0.4861$  ( $duv=1.45e-03$ )

CCT= 5008K Prcp WL:  $L_d=571.1nm$  Purity=9.9%

Peak WL:  $L_p=448nm$  FWHM: =22.6nm Ratio:R=17.1% G=79.9% B=3.0%

Render Index:  $R_a = 84.6$

R1 =93 R2 =85 R3 =74 R4 =83 R5 =90 R6 =79 R7 =84

R8 =89 R9 =92 R10=61 R11=84 R12=57 R13=89 R14=84 R15=95

LEVEL:OUT WHITE:ANSI\_5000K

TLCI Parameters: TLCI = 76.3

## Photometric & Radiometric Parameters

Flux = 15428 lm Eff. : 47.44 lm/W  $F_e = 48.806 W$

## Electrical parameters

$V = 239.9 V$   $I = 1.427 A$   $P = 325.2 W$  PF = 0.9502

Freq=50.01 Hz



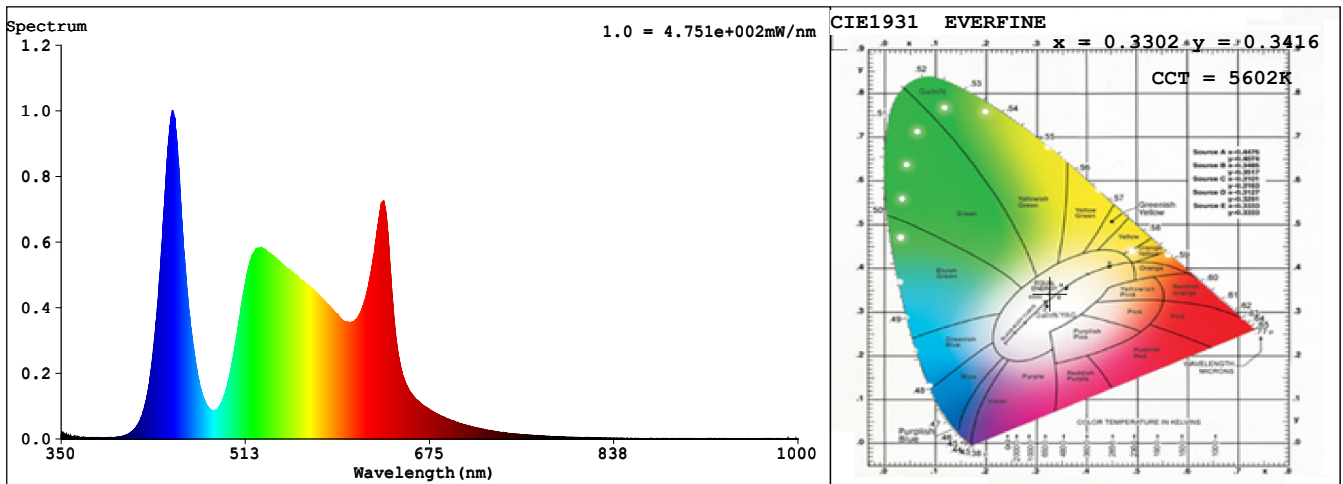
# Spectrum Test Report

Sample	:	Date	: 2024-02-19 18:03:52
Specification	: SERA	Sam. Status	:
Sample No.	: 5600K	Instrument	: HAAS-2000(EVERFINE)
Manufacturer	: CLF	Test by	: DANNY
		Assessor	: damin

## Test Condition

Temperature	: 28Deg	RH	: 65.0%
WL Range	: 350nm-1000nm	IP	: 55663 (85%)
Test Mode	: Fast Test	T	: 74 ms
		Sensitivity	: High

## Spectrum



## Colorimetric Parameters

Chromaticity Coordinate:  $x = 0.3302$   $y = 0.3416$  /  $u' = 0.2051$   $v' = 0.4775$  ( $duv=1.33e-03$ )

CCT= 5602K Prcp WL:  $L_d=529.6nm$  Purity=1.8%

Peak WL:  $L_p=448nm$  FWHM: =22.8nm Ratio:R=16.1% G=80.5% B=3.3%

Render Index:  $R_a = 84.4$

R1 =93 R2 =84 R3 =73 R4 =83 R5 =90 R6 =79 R7 =84

R8 =89 R9 =92 R10=60 R11=83 R12=56 R13=89 R14=84 R15=95

LEVEL:OUT WHITE:ANSI\_5700K

TLCI Parameters: TLCI = 78.6

## Photometric & Radiometric Parameters

Flux = 15712 lm Eff. : 46.78 lm/W  $F_e = 50.704 W$

## Electrical parameters

$V = 239.9 V$   $I = 1.469 A$   $P = 335.8 W$  PF = 0.9529

Freq=50.01 Hz



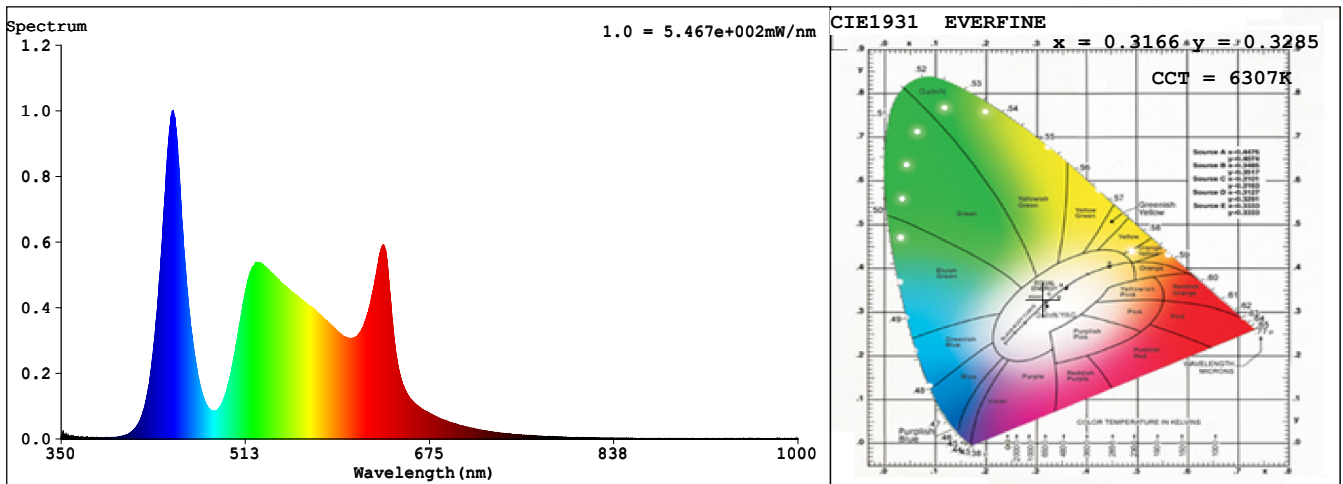
# Spectrum Test Report

Sample	:	Date	: 2024-02-19 18:04:25
Specification	: SERA	Sam. Status	:
Sample No.	: 6300K	Instrument	: HAAS-2000(EVERFINE)
Manufacturer	: CLF	Test by	: DANNY
		Assessor	: damin

## Test Condition

Temperature	: 28Deg	RH	: 65.0%
WL Range	: 350nm-1000nm	IP	: 51181 (78%)
Test Mode	: Fast Test	T	: 59 ms
		Sensitivity	: High

## Spectrum



## Colorimetric Parameters

Chromaticity Coordinate:  $x = 0.3166$   $y = 0.3285$  /  $u' = 0.2007$   $v' = 0.4686$  ( $duv=9.76e-04$ )

CCT= 6307K Prcp WL:  $L_d=487.9nm$  Purity=6.0%

Peak WL:  $L_p=449nm$  FWHM: =22.8nm Ratio:R=15.3% G=81.0% B=3.7%

Render Index:  $R_a = 84.3$

R1 =93 R2 =84 R3 =73 R4 =82 R5 =91 R6 =79 R7 =84

R8 =89 R9 =93 R10=59 R11=82 R12=56 R13=90 R14=84 R15=95

LEVEL:OUT WHITE:ANSI\_6500K

TLCI Parameters: TLCI = 80.4

## Photometric & Radiometric Parameters

Flux = 16036 lm Eff. : 46.13 lm/W  $F_e = 53.005 W$

## Electrical parameters

$V = 239.9 V$   $I = 1.516 A$   $P = 347.6 W$  PF = 0.9559

Freq=50.01 Hz



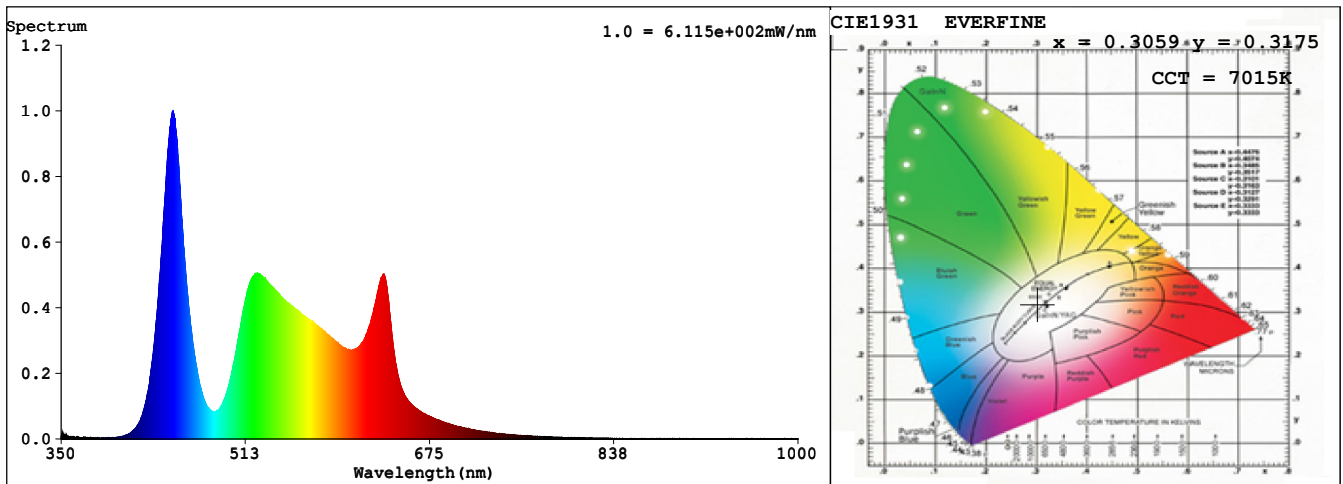
# Spectrum Test Report

Sample	:	Date	: 2024-02-19 18:04:53
Specification	: SERA	Sam. Status	:
Sample No.	: 7000K	Instrument	: HAAS-2000(EVERFINE)
Manufacturer	: CLF	Test by	: DANNY
		Assessor	: damin

## Test Condition

Temperature	: 28Deg	RH	: 65.0%
WL Range	: 350nm-1000nm	IP	: 57177 (87%)
Test Mode	: Fast Test	T	: 59 ms
		Sensitivity	: High

## Spectrum



## Colorimetric Parameters

Chromaticity Coordinate:  $x = 0.3059$   $y = 0.3175$  /  $u' = 0.1974$   $v' = 0.4611$  ( $duv=7.54e-04$ )

CCT= 7015K Prcp WL:  $L_d=483.9nm$  Purity=10.6%

Peak WL:  $L_p=449nm$  FWHM: =22.9nm Ratio:R=14.6% G=81.3% B=4.1%

Render Index:  $R_a = 84.1$

R1 =93 R2 =84 R3 =72 R4 =82 R5 =91 R6 =79 R7 =84

R8 =89 R9 =93 R10=59 R11=81 R12=55 R13=90 R14=84 R15=96

LEVEL:OUT WHITE:ANSI\_6500K

TLCI Parameters: TLCI = 81.5

## Photometric & Radiometric Parameters

Flux = 16302 lm Eff. : 45.53 lm/W  $F_e = 54.996 W$

## Electrical parameters

$V = 239.9 V$   $I = 1.557 A$   $P = 358.1 W$  PF = 0.9588

Freq=50.01 Hz



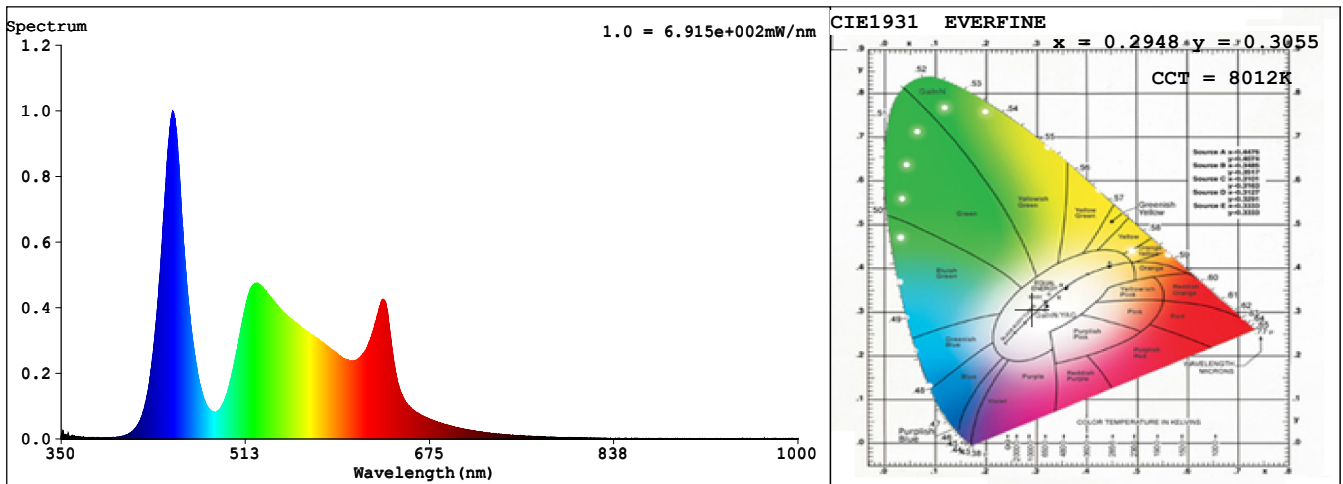
# Spectrum Test Report

Sample	:	Date	: 2024-02-19 18:05:20
Specification	: SERA	Sam. Status	:
Sample No.	: 8000K	Instrument	: HAAS-2000(EVERFINE)
Manufacturer	: CLF	Test by	: DANNY
		Assessor	: damin

## Test Condition

Temperature	: 28Deg	RH	: 65.0%
WL Range	: 350nm-1000nm	IP	: 51400 (78%)
Test Mode	: Fast Test	T	: 47 ms
		Sensitivity	: High

## Spectrum



## Colorimetric Parameters

Chromaticity Coordinate:  $x = 0.2948$   $y = 0.3055$  /  $u' = 0.1941$   $v' = 0.4525$  ( $duv=6.14e-04$ )

CCT= 8012K Prcp WL:  $L_d=481.7\text{nm}$  Purity=15.4%

Peak WL:  $L_p=448\text{nm}$  FWHM: =23.0nm Ratio:R=14.0% G=81.6% B=4.4%

Render Index:  $R_a = 84.0$

R1 =94 R2 =83 R3 =71 R4 =82 R5 =91 R6 =78 R7 =84

R8 =89 R9 =94 R10=58 R11=80 R12=54 R13=90 R14=83 R15=96

LEVEL:OUT WHITE:OUT

TLCI Parameters: TLCI = 82.8

## Photometric & Radiometric Parameters

Flux = 16697 lm Eff. : 44.82 lm/W  $F_e = 57.820 \text{ W}$

## Electrical parameters

$V = 239.9 \text{ V}$   $I = 1.615 \text{ A}$   $P = 372.5 \text{ W}$  PF = 0.9617

Freq=50.01 Hz





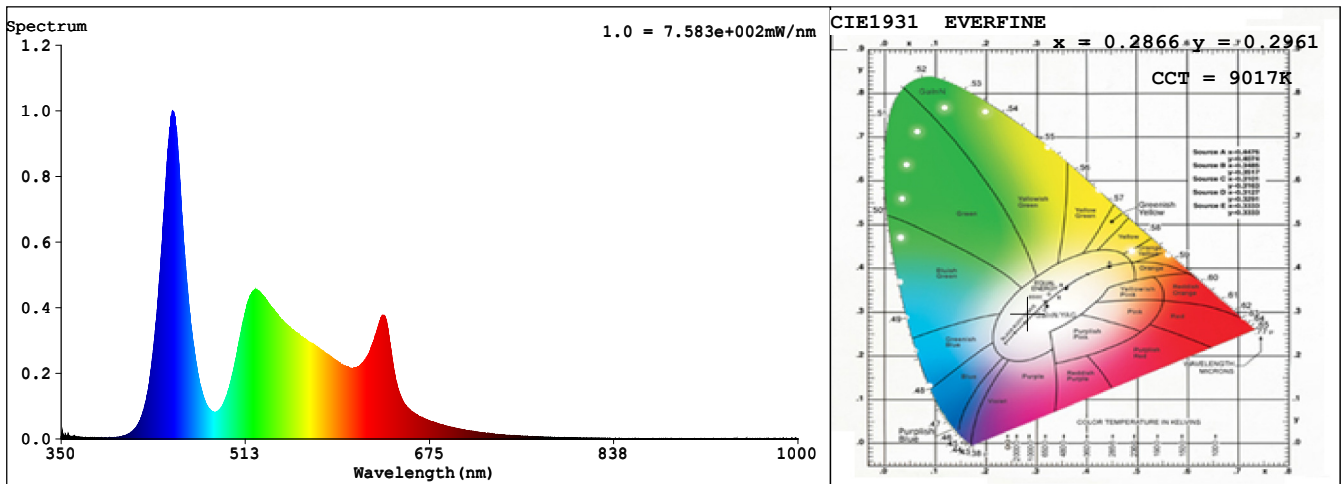
# Spectrum Test Report

Sample	:	Date	: 2024-02-19 18:05:33
Specification	: SERA	Sam. Status	:
Sample No.	: 9000K	Instrument	: HAAS-2000(EVERFINE)
Manufacturer	: CLF	Test by	: DANNY
		Assessor	: damin

## Test Condition

Temperature	: 28Deg	RH	: 65.0%
WL Range	: 350nm-1000nm	IP	: 56456 (86%)
Test Mode	: Fast Test	T	: 47 ms
		Sensitivity	: High

## Spectrum



## Colorimetric Parameters

Chromaticity Coordinate:  $x = 0.2866$   $y = 0.2961$  /  $u' = 0.1917$   $v' = 0.4456$  ( $duv=4.56e-04$ )

CCT= 9017K Prcp WL:  $L_d=480.5nm$  Purity=19.1%

Peak WL:  $L_p=448nm$  FWHM: =23.1nm Ratio:R=13.5% G=81.7% B=4.8%

Render Index:  $R_a = 83.9$

R1 =94 R2 =83 R3 =71 R4 =82 R5 =91 R6 =78 R7 =84

R8 =89 R9 =95 R10=57 R11=80 R12=53 R13=90 R14=83 R15=97

LEVEL:OUT WHITE:OUT

TLCI Parameters: TLCI = 83.4

## Photometric & Radiometric Parameters

Flux = 17019 lm Eff. : 44.22 lm/W  $F_e = 60.229 W$

## Electrical parameters

$V = 239.9 V$   $I = 1.664 A$   $P = 384.9 W$  PF = 0.9644

Freq=50.01 Hz



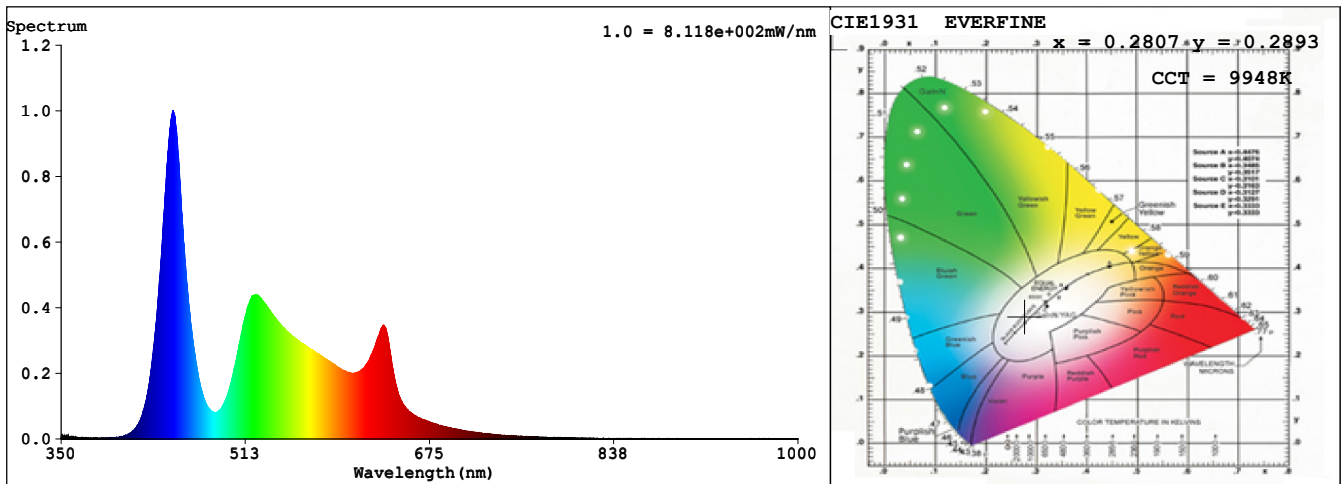
# Spectrum Test Report

Sample	:	Date	: 2024-02-19 18:05:53
Specification	: SERA	Sam. Status	:
Sample No.	: 10000K	Instrument	: HAAS-2000(EVERFINE)
Manufacturer	: CLF	Test by	: DANNY
		Assessor	: damin

## Test Condition

Temperature	: 28Deg	RH	: 65.0%
WL Range	: 350nm-1000nm	IP	: 47598 (73%)
Test Mode	: Fast Test	T	: 37 ms
		Sensitivity	: High

## Spectrum



## Colorimetric Parameters

Chromaticity Coordinate:  $x = 0.2807$   $y = 0.2893$  /  $u' = 0.1900$   $v' = 0.4406$  ( $duv=4.71e-04$ )

CCT= 9948K Prcp WL:  $L_d=479.9nm$  Purity=21.8%

Peak WL:  $L_p=449nm$  FWHM: =23.1nm Ratio:R=13.1% G=81.9% B=5.0%

Render Index:  $R_a = 83.8$

R1 =94 R2 =83 R3 =70 R4 =81 R5 =91 R6 =78 R7 =84

R8 =89 R9 =95 R10=57 R11=79 R12=52 R13=90 R14=83 R15=97

LEVEL:OUT WHITE:OUT

TLCI Parameters: TLCI = 83.7

## Photometric & Radiometric Parameters

Flux = 17264 lm Eff. : 43.69 lm/W  $F_e = 61.972 W$

## Electrical parameters

$V = 239.8 V$   $I = 1.706 A$   $P = 395.1 W$  PF = 0.9659

Freq=50.01 Hz



# Spectrum Test Report

Sample :  
 Specification : SERA  
 Sample No. : 6000K  
 Manufacturer : CLF

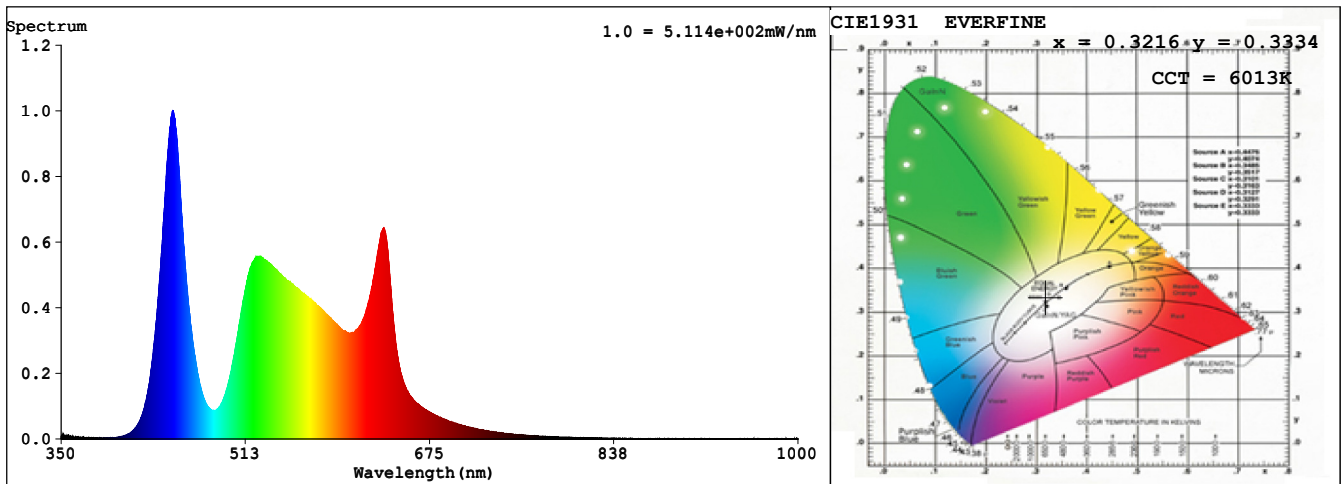
Date : 2024-02-19 18:07:04  
 Sam. Status :  
 Instrument : HAAS-2000(EVERFINE)  
 Test by : DANNY  
 Assessor : damin

## Test Condition

Temperature : 28Deg  
 WL Range : 350nm-1000nm  
 Test Mode : Fast Test

RH : 65.0%  
 IP : 57536 (88%)  
 T : 71 ms  
 Sensitivity : High

## Spectrum



## Colorimetric Parameters

Chromaticity Coordinate:  $x = 0.3216$   $y = 0.3334$  /  $u' = 0.2024$   $v' = 0.4720$  ( $duv=1.07e-03$ )

CCT= 6013K Prcp WL:  $L_d=491.8nm$  Purity=3.9%

Peak WL:  $L_p=449nm$  FWHM: =22.9nm Ratio:R=15.6% G=80.8% B=3.6%

Render Index:  $R_a = 84.4$

R1 =93 R2 =84 R3 =73 R4 =83 R5 =91 R6 =79 R7 =84

R8 =89 R9 =94 R10=60 R11=82 R12=56 R13=90 R14=84 R15=95

LEVEL:OUT WHITE:ANSI\_5700K

TLCI Parameters: TLCI = 80.0

## Photometric & Radiometric Parameters

Flux = 15754 lm Eff. : 45.97 lm/W  $F_e = 51.627 W$

## Electrical parameters

$V = 239.8 V$   $I = 1.497 A$   $P = 342.7 W$  PF = 0.9546

Freq=50.01 Hz