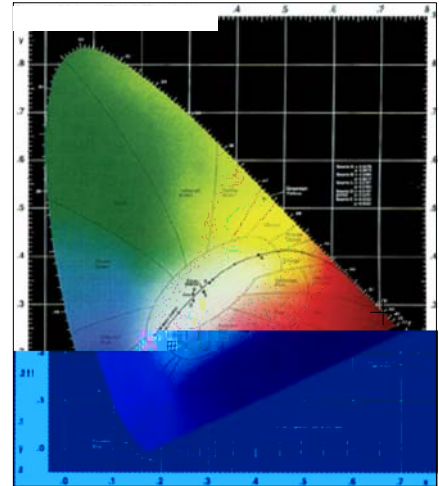
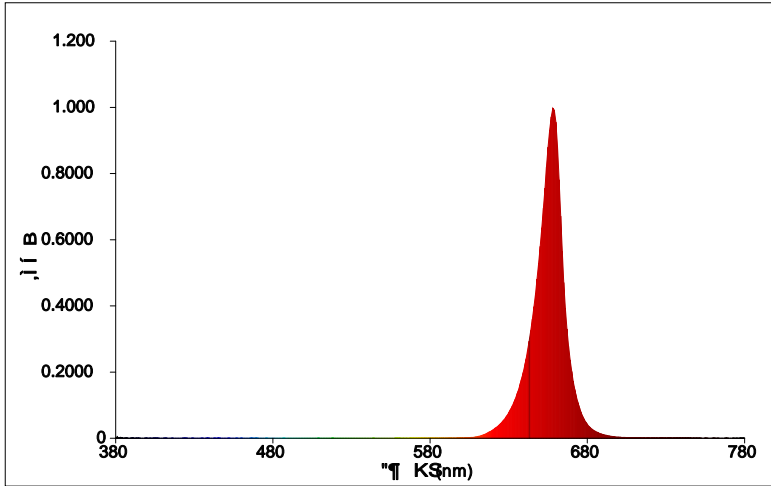


**z – D**  
*ETG£* - = 4.221 lm

: 48.63 lm/W

-

\$d B # A© y



Np8F – D

8F • \$ Ū (2 z):x=0.7188 y=0.2790/u'=0.5856 v'=0.5114 duv=-1.384e-001  
 , ì G8F#ý:Tc=1001K "¶KS: d=642.7nm 8F4f z: Purity=99.3%  
 8F!":R=98.8% G=1.1% B=0.0% Ä "¶KS: p=658.4nm ' z : d=16.3nm  
 8F Ū D :Ra=17.4 [4 Ū õ š2ĭ D ]  
 R1 =12.40 R2 =81.28 R3 =32.35 R4 =-16.52 R5 =9.62  
 R6 =86.44 R7 =8.40 R8 =-74.69 R9 =-240.25 R10=80.01  
 R11=-2.10 R12=82.06 R13=37.15 R14=59.38 R15=-29.32

z – D

EiG£ - = 8.640 lm : 48.36 lm/W -e = 135.0 mW  
 G£ \$(umol/s): 3.679e-004[400~500nm] 8.392e-004[500~600nm] 7.333e-001[600~700nm]  
 G£ \$=7.378e-001umol/s g; :± !" =657 g; 6Ñ =7.546e-001  
 ŪEd Ø – D Ä 400~700nm Å: Ū G£ \$EiG£ PPF: 0.7348 µmol/s  
 Ū Ý Ed ØEiG£ PRF:134.51mW  
 Ū \$EiG£ ) [ Eff(PPF): 4.11 µmol/s/W

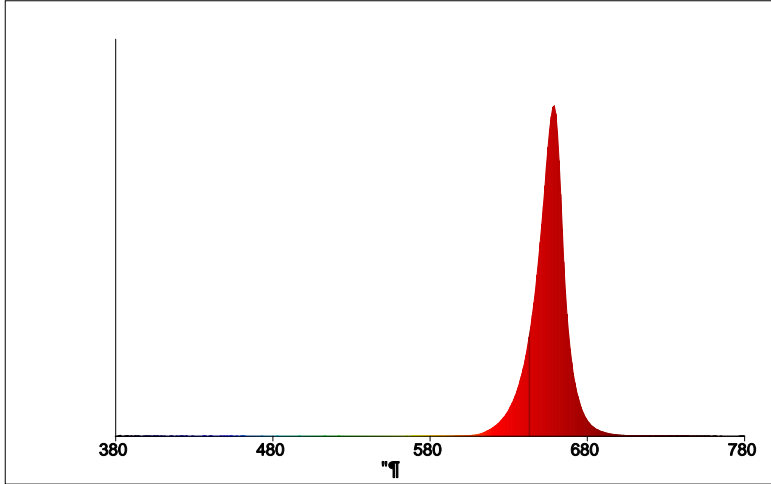
+ – D

!7 å+ \_ VF = 1.785 V !7 å+ # IF = 100.0 mA s)[ P = 178.6 mW Ch1  
 Ú4{:[OUT] ,Q Ú2O:OUT

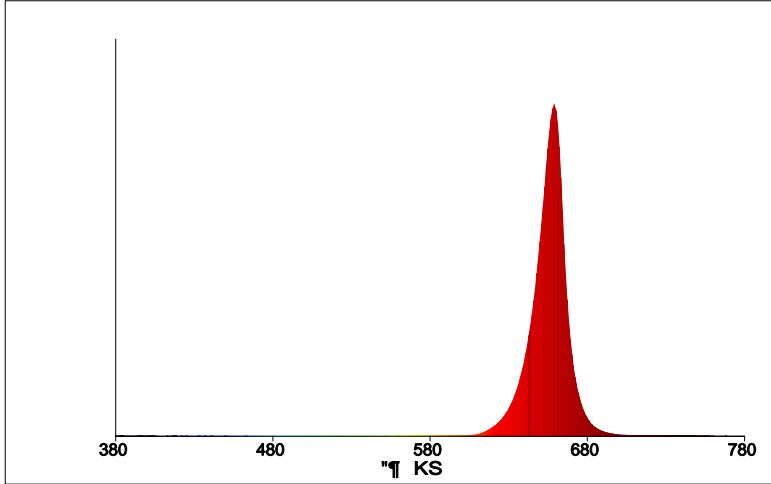
¼ <(Š Ō. /Ä Ū ÊKÈT=80.00ms Ip=40491 (62%) [ HAAS2000\_V1\_USB ] V2.00.289

{ • \_ È :LIGHT { •4ê È :24  
 # A© Ž , :DAMIN # A© 1 ó :2021-04-30 14-46  
 )f W#ý z:25.3 )f W\$S z :65.0%  
 Eô\_V :EVERFINE Ū "¼3#  
 u Ž , :damin  
 # A© ¼ <LTS-300\_100V + HAAS2000\_V1\_USB

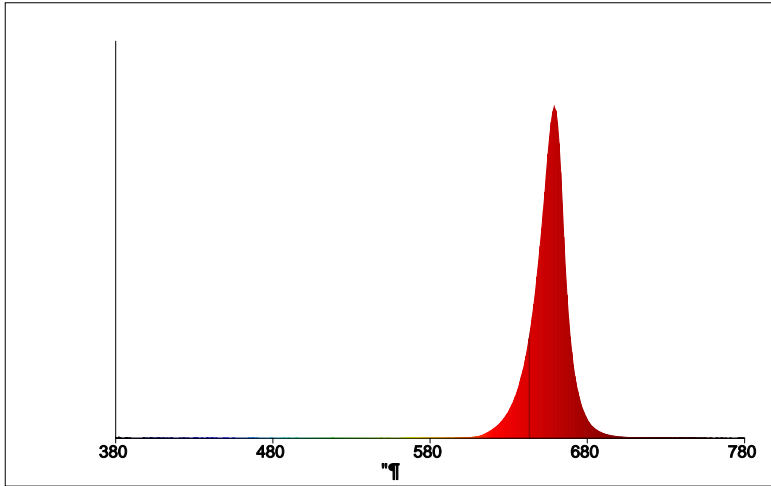
\$d B # A© y



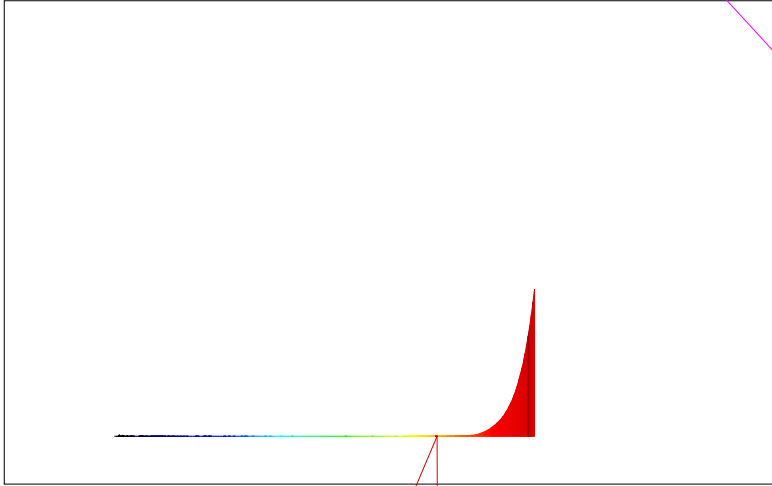
\$d B # A© y



\$d B # A© y



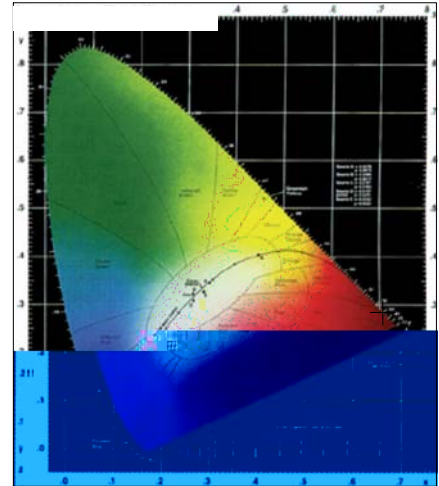
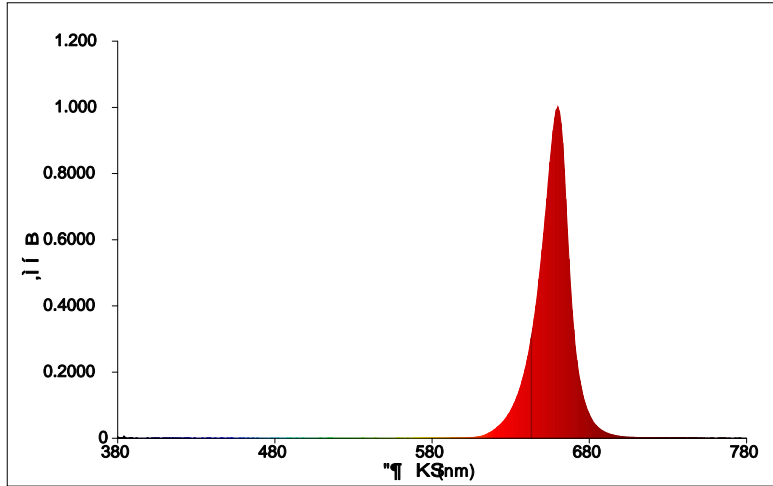
\$d B # A© y



E° • (EVERFINE)LEDspec      Test report  
8F+ # A© y

1    7   NI    E 17   NI

\$d B # A© y



Np8F – D

8F • \$ Ū (2 z):x=0.7181 y=0.2786/u'=0.5854 v'=0.5110 duv=-1.382e-001  
 , Ì G8F#ý:Tc=1001K "¶KS: d=643.5nm 8F4f z: Purity=99.0%  
 8F!":R=98.8% G=1.2% B=0.1% Ä "¶KS: p=660.0nm ' z : d=19.0nm  
 8F Ū D :Ra=18.5 [4 Ū ö š2ĭ D ]  
 R1 =13.59 R2 =81.90 R3 =31.78 R4 =-15.02 R5 =11.33  
 R6 =86.78 R7 =9.68 R8 =-72.08 R9 =-235.65 R10=81.92  
 R11=-0.34 R12=80.60 R13=38.25 R14=58.92 R15=-27.25

z – D

EİG£ - = 49.55 lm : 39.47 lm/W -e = 822.0 mW  
 G£ \$(umol/s): 3.207e-003[400~500nm] 5.183e-003[500~600nm] 4.467e+000[600~700nm]  
 G£ \$=4.500e+000umol/s g; :± !" =475 g; 6Ñ =6.533e-001  
 ŪEd Ø – D Ä 400~700nm Å: Ū G£ \$EİG£ PPF: 4.4769 µmol/s  
 Ū Ý Ed ØEİG£ PRF:817.83mW  
 Ū \$EİG£ ) [ Eff(PPF): 3.57 µmol/s/W

+ – D

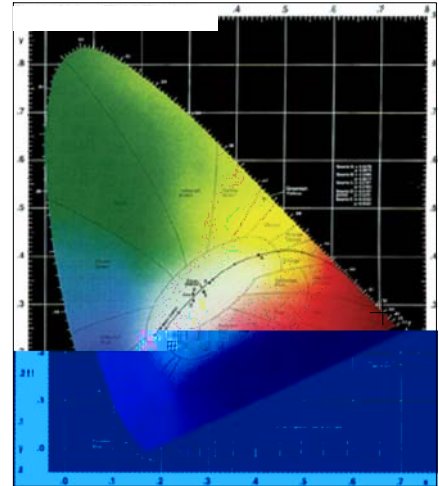
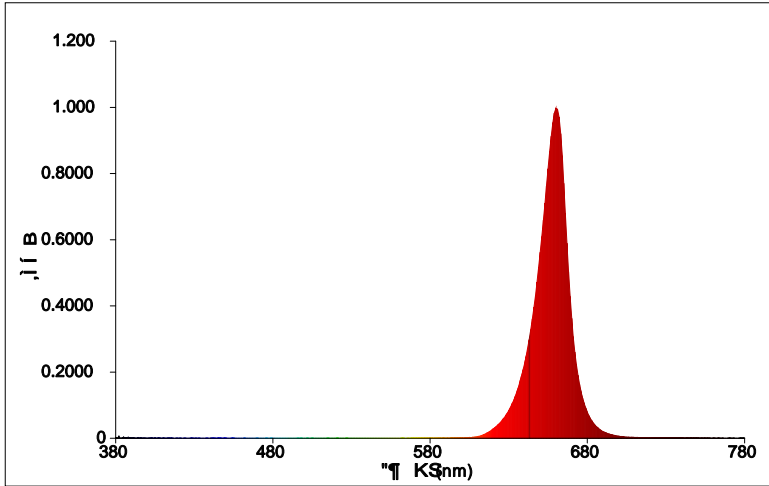
!7 å+ \_ VF = 2.093 V !7 å+ # IF = 599.8 mA s)[ P = 1256 mW Ch1  
 Ú4{:\*\*[OUT] ,Q Ú2O:OUT

¼ <(Š Ō. /Ä Ū ÉKÈT=10.00ms Ip=27480 (42%) [ HAAS2000\_V1\_USB ] V2.00.289

{ • \_ È :LIGHT { •4ê È :30  
 # A© Ž , :DAMIN # A© 1 ó :2021-04-30 14-47  
 )f W#ý z:25.3 )f W\$S z :65.0%  
 Eô\_V :EVERFINE Ū "¼3#  
 u Ž , :damin  
 # A© ¼ <LTS-300\_100V + HAAS2000\_V1\_USB



\$d B # A© y



Np8F – D

8F • \$ Ū (2 z):x=0.7184 y=0.2784/u'=0.5860 v'=0.5109 duv=-1.388e-001  
 , ì G8F#ý:Tc=1001K "¶KS: d=643.7nm 8F4f z: Purity=99.0%  
 8F!":R=98.9% G=1.1% B=0.0% Ä "¶KS: p=660.5nm ' z : d=19.4nm  
 8F Ū D :Ra=16.6 [4 Ū õ š2ĭ D ]  
 R1 =11.67 R2 =81.17 R3 =29.96 R4 =-18.27 R5 =8.67  
 R6 =85.84 R7 =8.39 R8 =-74.68 R9 =-240.13 R10=80.99  
 R11=-4.08 R12=82.31 R13=36.59 R14=57.73 R15=-29.42

z – D

EİGŁ - = 56.53 lm : 37.69 lm/W -e = 953.7 mW  
 GŁ \$(umol/s): 3.725e-003[400~500nm] 5.828e-003[500~600nm] 5.185e+000[600~700nm]  
 GŁ \$=5.225e+000umol/s g; :± !" =491 g; 6Ñ =6.346e-001  
 ŪEd Ø – D Ä 400~700nm Å: Ū GŁ \$EİGŁ PPF: 5.1964 µmol/s  
 Ū Ý Ed ØEİGŁ PRF:948.72mW  
 Ū \$EİGŁ ) [ Eff(PPF): 3.46 µmol/s/W

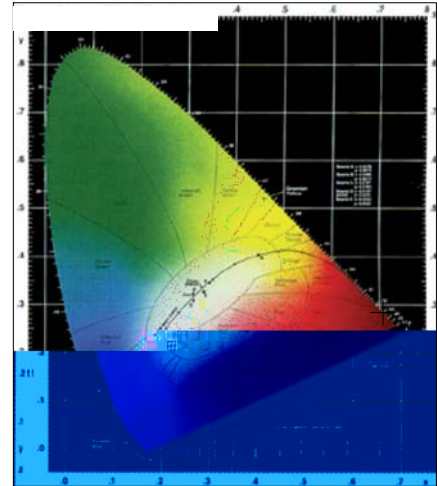
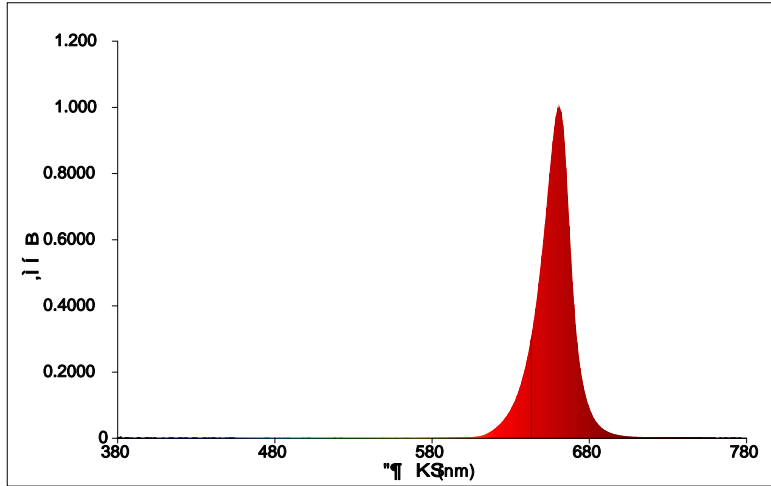
+ – D

!7 å+ \_ VF = 2.142 V !7 å+ # IF = 699.9 mA s)[ P = 1500 mW Ch1  
 Ú4{:\*\*[OUT] ,Q Ú2O:OUT

¼ <(Š Ō. /Ä Ú ÊKÈT=10.00ms Ip=31239 (48%) [ HAAS2000\_V1\_USB ] V2.00.289

{ • \_ Ę :LIGHT { •4ê Ę :31  
 # A© Ž , :DAMIN # A© 1 ó :2021-04-30 14-48  
 )f W#ý z:25.3 )f W\$\$ z :65.0%  
 Eô\_V :EVERFINE Ū "¼3#  
 u Ž , :damin  
 # A© ¼ <LTS-300\_100V + HAAS2000\_V1\_USB

\$d B # A© y



Np8F – D

8F • \$ Ū (2 z):x=0.7186 y=0.2786/u'=0.5859 v'=0.5111 duv=-1.387e-001  
 , Ì G8F#ý:Tc=1001K "¶KS: d=643.2nm 8F4f z: Purity=99.2%  
 8F!":R=98.8% G=1.2% B=0.1% Å "¶KS: p=660.5nm ' z : d=19.8nm  
 8F Ū D :Ra=17.9 [4 Ū ö š2ĭ D ]  
 R1 =12.90 R2 =81.36 R3 =31.53 R4 =-16.06 R5 =10.22  
 R6 =85.55 R7 =10.02 R8 =-72.10 R9 =-236.04 R10=81.13  
 R11=-2.34 R12=82.61 R13=37.45 R14=58.67 R15=-27.50

z – D

EİG£ - = 63.25 lm : 36.07 lm/W -e = 1082 mW  
 G£ \$(umol/s): 3.451e-003[400~500nm] 6.738e-003[500~600nm] 5.889e+000[600~700nm]  
 G£ \$=5.934e+000umol/s g; :± !" =643 g; 6Ñ =6.163e-001  
 ŪEd Ø – D Å 400~700nm Å: Ū G£ \$EİG£ PPF: 5.9008 µmol/s  
 Ū Ý Ed ØEİG£ PRF:1076.7mW  
 Ū \$EİG£ ) [ Eff(PPF): 3.36 µmol/s/W

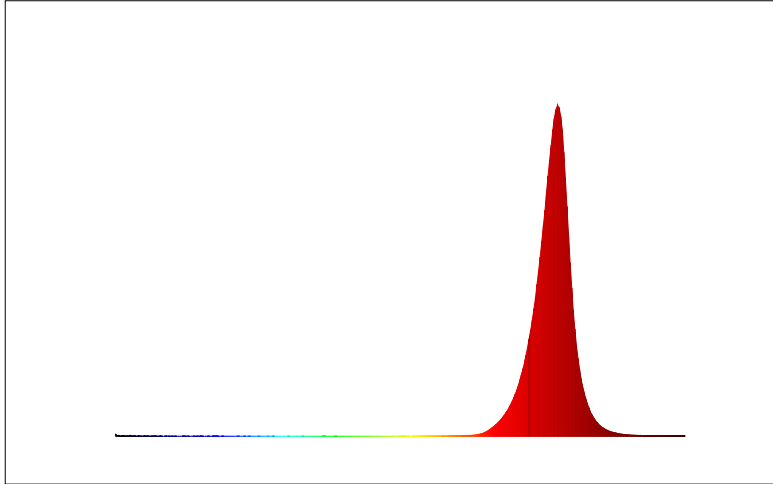
+ – D

!7 å+ \_ VF = 2.191 V !7 å+ # IF = 800.0 mA s)[ P = 1754 mW Ch1  
 Ú4{:\*\*[OUT] ,Q Ú2O:OUT

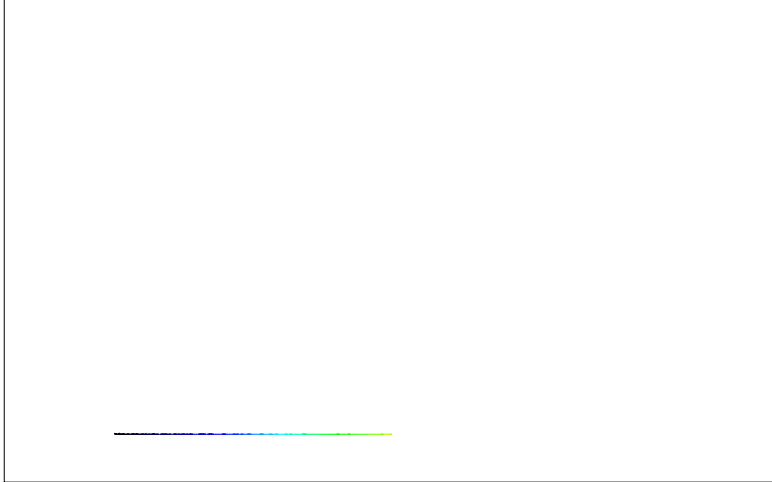
¼ <(Š Ō. /Ã Ú ÊKÈT=10.00ms Ip=34704 (53%) [ HAAS2000\_V1\_USB ] V2.00.289

{ • \_ Ę :LIGHT { •4ê Ę :32  
 # A© Ž , :DAMIN # A© 1 ó :2021-04-30 14-48  
 )f W#ý z:25.3 )f W\$\$ z :65.0%  
 Eô\_V :EVERFINE Ū "¼3#  
 u Ž , :damin  
 # A© ¼ <LTS-300\_100V + HAAS2000\_V1\_USB

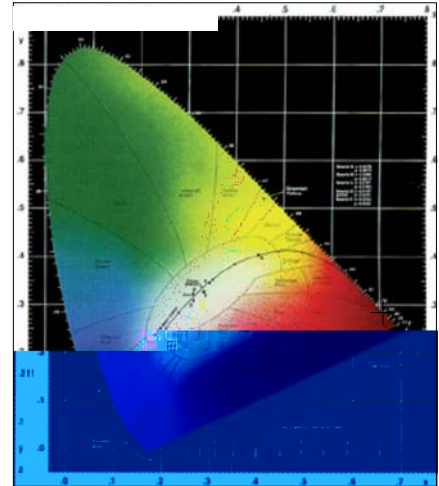
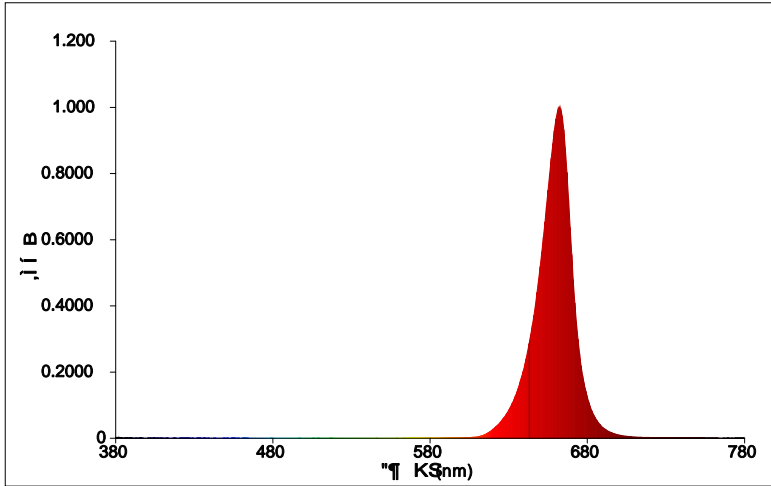
\$d B # A© y



\$d B # A© y



\$d B # A© y



Np8F – D

8F • \$ Ū (2 z):x=0.7187 y=0.2784/u'=0.5864 v'=0.5110 duv=-1.392e-001  
 , Ì G8F#ý:Tc=1001K "¶KS: d=643.7nm 8F4f z: Purity=99.1%  
 8F!":R=98.7% G=1.2% B=0.0% Å "¶KS: p=662.2nm ' z : d=21.2nm  
 8F Ū D :Ra=18.5 [4 Ū ò š2Ī D ]  
 R1 =13.50 R2 =81.27 R3 =32.03 R4 =-15.22 R5 =10.67  
 R6 =84.70 R7 =11.17 R8 =-70.51 R9 =-233.66 R10=81.15  
 R11=-1.95 R12=83.92 R13=37.85 R14=58.88 R15=-26.26

z – D

EİGŁ - = 79.88 lm : 31.15 lm/W -e = 1449 mW  
 GŁ \$(umol/s): 4.707e-003[400~500nm] 8.891e-003[500~600nm] 7.894e+000[600~700nm]  
 GŁ \$=7.961e+000umol/s g; :± !" =638 g; 6Ñ =5.642e-001  
 ŪEd Ø – D Å 400~700nm Å: Ū GŁ \$EİGŁ PPF: 7.9082 μmol/s  
 Ū Ý Ed ØEİGŁ PRF:1440mW  
 Ū \$EİGŁ ) [ Eff(PPF): 3.08 μmol/s/W

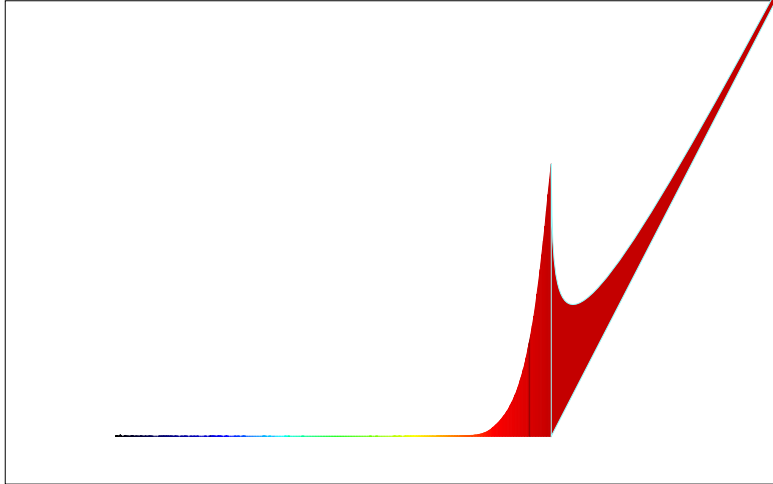
+ – D

!7 å+ \_ VF = 2.327 V !7 å+ # IF = 1102 mA s)[ P = 2565 mW Ch1  
 Ú4{:\*\*[OUT] ,Q Ú2O:OUT

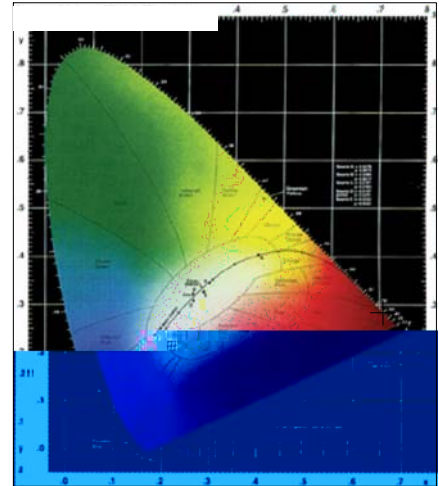
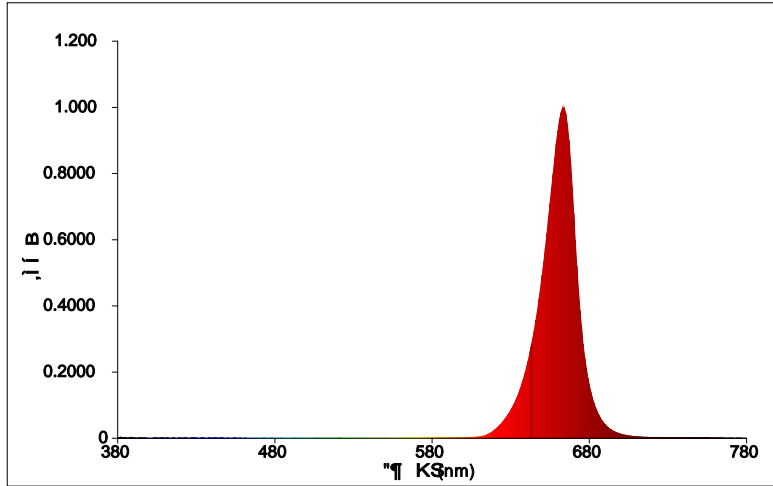
¼ <(Š Ō. /Å Ū ÊKÈT=10.00ms Ip=43766 (67%) [ HAAS2000\_V1\_USB ] V2.00.289

{ • \_ È :LIGHT { •4ê È :35  
 # A© Ž , :DAMIN # A© 1 ó :2021-04-30 14-48  
 )f W#ý z:25.3 )f W\$S z :65.0%  
 Eô\_V :EVERFINE Ū "¼3#  
 u Ž , :damin  
 # A© ¼ <LTS-300\_100V + HAAS2000\_V1\_USB

\$d B # A© y



\$d B # A© y



Np8F – D

8F • \$ Ū (2 z):x=0.7186 y=0.2781/u'=0.5867 v'=0.5108 duv=-1.395e-001  
 , ì G8F#ý:Tc=1001K "¶KS: d=644.2nm 8F4f z: Purity=99.0%  
 8F!":R=98.7% G=1.3% B=0.1% Ä "¶KS: p=663.6nm ' z : d=22.1nm  
 8F Ū D :Ra=19.0 [4 Ū õ š2ĭ D ]  
 R1 =14.32 R2 =81.77 R3 =31.05 R4 =-14.22 R5 =11.85  
 R6 =85.29 R7 =11.69 R8 =-69.39 R9 =-231.65 R10=82.64  
 R11=-0.62 R12=82.40 R13=38.60 R14=58.23 R15=-25.16

z – D

EİGŁ - = 87.93 lm : 28.00 lm/W -e = 1673 mW  
 GŁ \$(umol/s): 5.483e-003[400~500nm] 1.013e-002[500~600nm] 9.118e+000[600~700nm]  
 GŁ \$=9.205e+000umol/s g; :± !" =609 g; 6Ñ =5.318e-001  
 ÜEd Ø – D Ä 400~700nm Å: Ü GŁ \$EİGŁ PPF: 9.1343 µmol/s  
 Ü Ý Ed ØEİGŁ PRF:1660.6mW  
 Ü \$EİGŁ ) [ Eff(PPF): 2.91 µmol/s/W

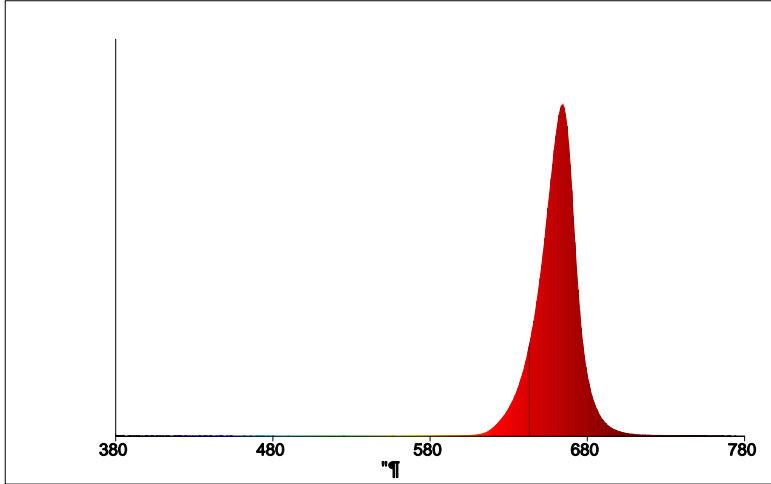
+ – D

!7 å+ \_ VF = 2.415 V !7 å+ # IF = 1300 mA s)[ P = 3141 mW Ch1  
 Ú4{:\*\*[OUT] ,Q Ú2O:OUT

¼ <(Š Ō. /Ä Ú ÊKÈT=10.00ms Ip=48563 (74%) [ HAAS2000\_V1\_USB ] V2.00.289

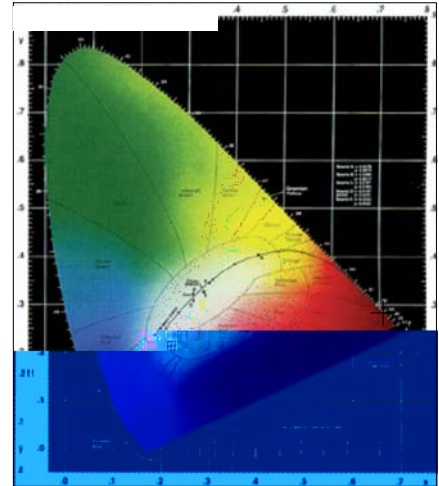
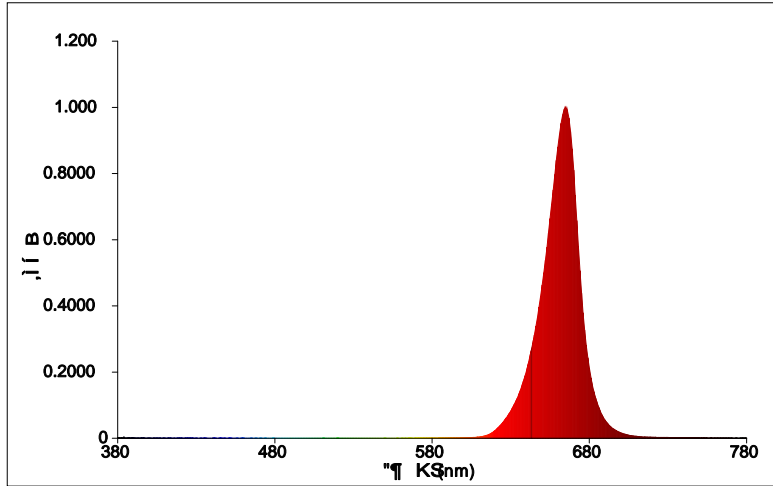
{ • \_ È :LIGHT { •4ê È :37  
 # A© Ž , :DAMIN # A© 1 ó :2021-04-30 14-49  
 )f W#ý z:25.3 )f W\$S z :65.0%  
 Eô V :EVERFINE Ū "¼3#  
 u Ž , :damin  
 # A© ¼ <LTS-300\_100V + HAAS2000\_V1\_USB

\$d B # A© y





\$d B # A© y



Np8F – D

8F • \$ Ū (2 z):x=0.7190 y=0.2779/u'=0.5873 v'=0.5107 duv=-1.401e-001  
 , Ì G8F#ý:Tc=1001K "¶KS: d=644.5nm 8F4f z: Purity=99.0%  
 8F!":R=98.7% G=1.3% B=0.0% Ä "¶KS: p=665.1nm ' z : d=23.1nm  
 8F Ū D :Ra=19.3 [4 Ū ö š2Ī D ]  
 R1 =14.67 R2 =81.68 R3 =31.34 R4 =-13.97 R5 =11.88  
 R6 =84.44 R7 =12.47 R8 =-68.46 R9 =-230.38 R10=82.45  
 R11=-1.30 R12=83.86 R13=38.81 R14=58.32 R15=-24.36

z – D

EİGŁ - = 93.01 lm : 24.80 lm/W -e = 1872 mW  
 GŁ \$(umol/s): 5.784e-003[400~500nm] 1.084e-002[500~600nm] 1.021e+001[600~700nm]  
 GŁ \$=1.032e+001umol/s g; :± !" =679 g; 6Ñ =4.985e-001  
 ŪEd Ø – D Ä 400~700nm Å: Ū GŁ \$EİGŁ PPF: 10.232 µmol/s  
 Ū Ý Ed ØEİGŁ PRF:1856.6mW  
 Ū \$EİGŁ ) [ Eff(PPF): 2.73 µmol/s/W

+ – D

!7 å+ \_ VF = 2.501 V !7 å+ # IF = 1499 mA s)[ P = 3751 mW Ch1  
 Ú4{:\*\*[OUT] ,Q Ú2O:OUT

¼ <(Š Ō. /Ä Ú ÊKÈT=10.00ms Ip=52255 (80%) [ HAAS2000\_V1\_USB ] V2.00.289

{ • \_ Ę :LIGHT { •4ê Ę :39  
 # A© Ž , :DAMIN # A© 1 ó :2021-04-30 14-49  
 )f W#ý z:25.3 )f W\$S z :65.0%  
 Eô\_V :EVERFINE Ū "¼3#  
 u Ž , :damin  
 # A© ¼ <LTS-300\_100V + HAAS2000\_V1\_USB