

Spectrum Test Report

RICHTER

Product : Midgard K831 Aluminium
Sample No. : Test 1_0 Minutes
Manufacturer : Midgard

Date : 2017-12-21
Instrument : HAAS-2000(EVERFINE)
Operator : JB

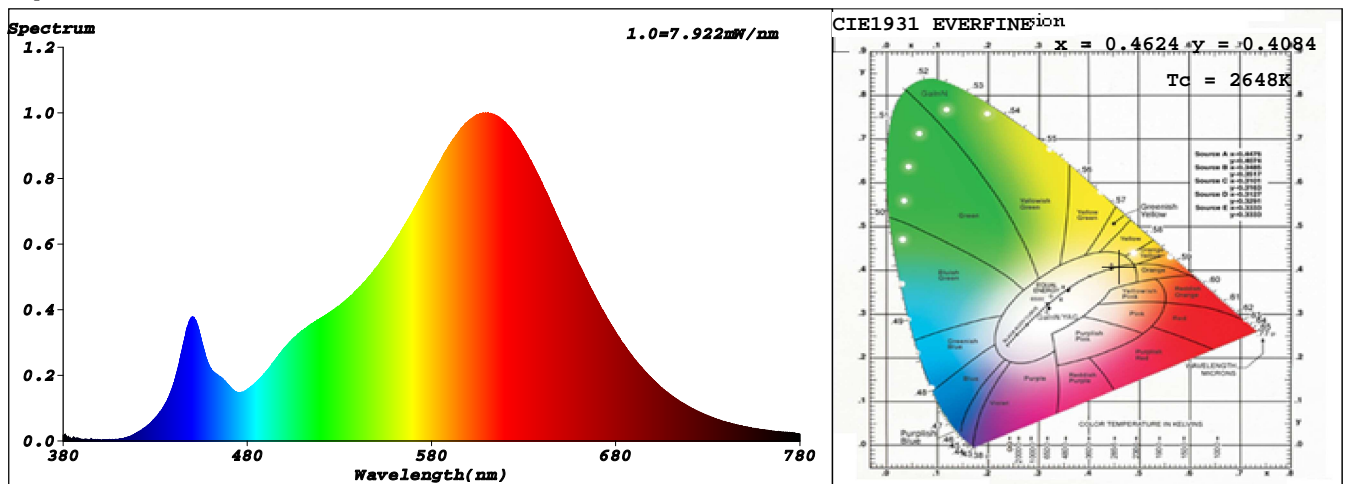
Test Condition

Temperature : 25.3Deg
Scan Range : 380nm-780nm

RH : 65.0%
IP : 53078 (81%)
T : 189 ms
Delicacy : High

Test Type : Fast Test

Spectroradiometric Parameters



Spectral Distribution

CIE1931 Chromaticity Diagram

CIE Color Parameters:

Chromaticity Coordinate: $x=0.4624$ $y=0.4084$ $u'=0.2651$ $v'=0.5269$ ($duv=-9.94e-04$)

CCT: $T_c=2648K$ Prcp WaveL: $\lambda_p=584.8nm$ Purity=61.4%

Peak WaveL: $\lambda_p=608nm$ Half Width: $\Delta\lambda_p=117.5nm$ Ratio: R=27.7% G=70.3% B=2.0%

Render Index: $R_a=83.7$

R1 =83	R2 =93	R3 =95	R4 =81	R5 =83	R6 =92	R7 =82	
R8 =60	R9 =15	R10=84	R11=81	R12=81	R13=85	R14=98	R15=75

Photo Parameters:

Flux = 386.1 lm Eff. : 47.81 lm/W $F_e = 1.227 W$

Fmol($\mu mol/s$): $6.055e-001$ Fluorescence and blue light ratio: 12.64 Fluorescent efficiency: 12.68

Electrical parameters:

V = 230.0 V I = 0.03900 A P = 8.077 W PF = 0.9004

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Spectrum Test Report

RICHTER

Product : Midgard K831 Aluminium
Sample No. : Test 2_5 Minutes
Manufacturer : Midgard

Date : 2017-12-21
Instrument : HAAS-2000(EVERFINE)
Operator : JB

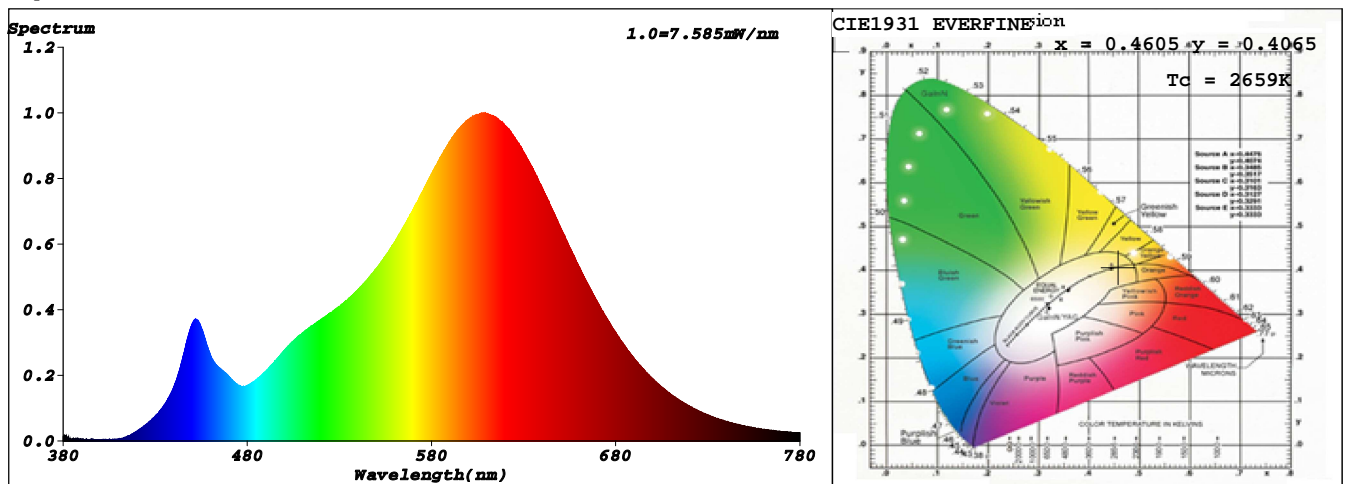
Test Condition

Temperature : 25.3Deg
Scan Range : 380nm-780nm

RH : 65.0%
IP : 50803 (78%)
T : 189 ms
Delicacy : High

Test Type : Fast Test

Spectroradiometric Parameters



Spectral Distribution

CIE1931 Chromaticity Diagram

CIE Color Parameters:

Chromaticity Coordinate: $x=0.4605$ $y=0.4065$ $u'=0.2648$ $v'=0.5259$ ($duv=-1.58e-03$)

CCT: $T_c=2659K$ Prcp WaveL: $\lambda_p=584.9nm$ Purity=60.2%

Peak WaveL: $\lambda_p=609nm$ Half Width: $\Delta\lambda_p=116.6nm$ Ratio: R=27.5% G=70.4% B=2.1%

Render Index: $R_a=83.0$

R1 =82	R2 =93	R3 =94	R4 =80	R5 =82	R6 =92	R7 =81	
R8 =58	R9 =12	R10=85	R11=80	R12=81	R13=85	R14=98	R15=75

Photo Parameters:

Flux = 369.9 lm Eff. : 44.59 lm/W $F_e = 1.178 W$

Fmol(umol/s): 5.808e-001 Fluorescence and blue light ratio: 11.59 Fluorescent efficiency: 11.79

Electrical parameters:

V = 230.0 V I = 0.04000 A P = 8.295 W PF = 0.9016

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Spectrum Test Report

RICHTER

Product : Midgard K831 Aluminium
Sample No. : Test 3_10 Minutes
Manufacturer : Midgard

Date : 2017-12-21
Instrument : HAAS-2000(EVERFINE)
Operator : JB

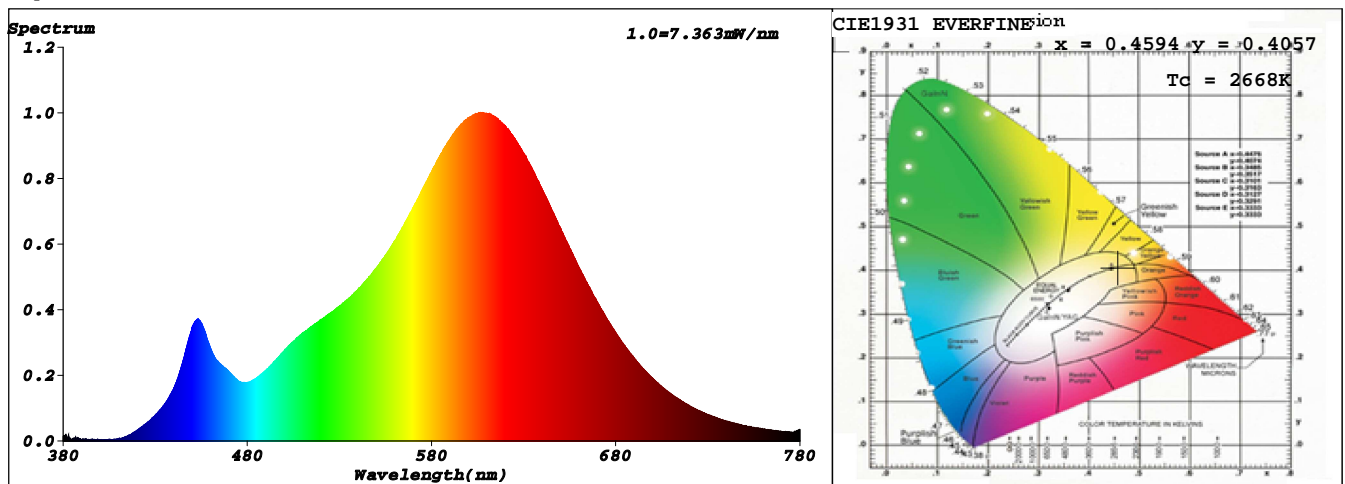
Test Condition

Temperature : 25.3Deg
Scan Range : 380nm-780nm

RH : 65.0%
IP : 49529 (76%)
T : 189 ms
Delicacy : High

Test Type : Fast Test

Spectroradiometric Parameters



Spectral Distribution

CIE1931 Chromaticity Diagram

CIE Color Parameters:

Chromaticity Coordinate: $x=0.4594$ $y=0.4057$ $u'=0.2644$ $v'=0.5254$ ($duv=-1.80e-03$)

CCT: $T_c=2668K$ Prcp WaveL: $\lambda_p=585.0nm$ Purity=59.7%

Peak WaveL: $\lambda_p=608nm$ Half Width: $\Delta\lambda_p=116.8nm$ Ratio: R=27.4% G=70.5% B=2.1%

Render Index: $R_a=82.7$

R1 =82	R2 =93	R3 =94	R4 =80	R5 =82	R6 =93	R7 =81
R8 =58	R9 =11	R10=85	R11=79	R12=81	R13=84	R14=97
R15=74						

Photo Parameters:

Flux = 360.4 lm Eff. : 43.39 lm/W $F_e = 1.148 W$

Fmol($\mu mol/s$): 5.659e-001 Fluorescence and blue light ratio: 11.02 Fluorescent efficiency: 11.45

Electrical parameters:

V = 230.0 V I = 0.04000 A P = 8.306 W PF = 0.9028

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Spectrum Test Report

RICHTER

Product : Midgard K831 Aluminium
Sample No. : Test 4_20 Minutes
Manufacturer : Midgard

Date : 2017-12-21
Instrument : HAAS-2000(EVERFINE)
Operator : JB

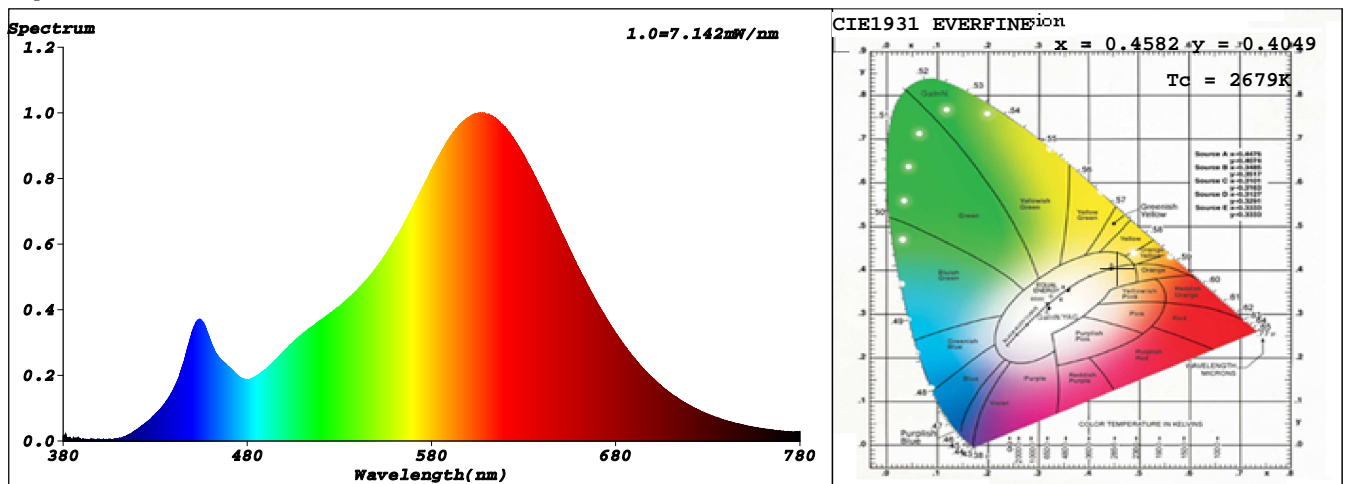
Test Condition

Temperature : 25.3Deg
Scan Range : 380nm-780nm

RH : 65.0%
IP : 48009 (73%)
T : 189 ms
Delicacy : High

Test Type : Fast Test

Spectroradiometric Parameters



Spectral Distribution

CIE1931 Chromaticity Diagram

CIE Color Parameters:

Chromaticity Coordinate: x=0.4582 y=0.4049/u'=0.2640 v'=0.5249(duv=-1.99e-03)

CCT:Tc= 2679K Prcp WaveL: λ_p =585.0nm Purity=59.1%

Peak WaveL: λ_p =608nm Half Width: $\Delta\lambda_p$ =116.3nm Ratio:R=27.3% G=70.5% B=2.2%

Render Index:Ra=82.4

R1 =81	R2 =93	R3 =93	R4 =79	R5 =82	R6 =93	R7 =80	
R8 =57	R9 =10	R10=85	R11=78	R12=81	R13=84	R14=97	R15=74

Photo Parameters:

Flux = 350.0 lm Eff. : 42.06 lm/W Fe = 1.115 W

Fmol(umol/s):5.493e-001 Fluorescence and blue light ratio:10.68 Fluorescent efficiency:11.09

Electrical parameters:

V = 230.0 V I = 0.04000 A P = 8.321 W PF = 0.9045

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Spectrum Test Report

RICHTER

Product : Midgard K831 Aluminium
Sample No. : Test 5_30 Minutes
Manufacturer : Midgard

Date : 2017-12-21
Instrument : HAAS-2000(EVERFINE)
Operator : JB

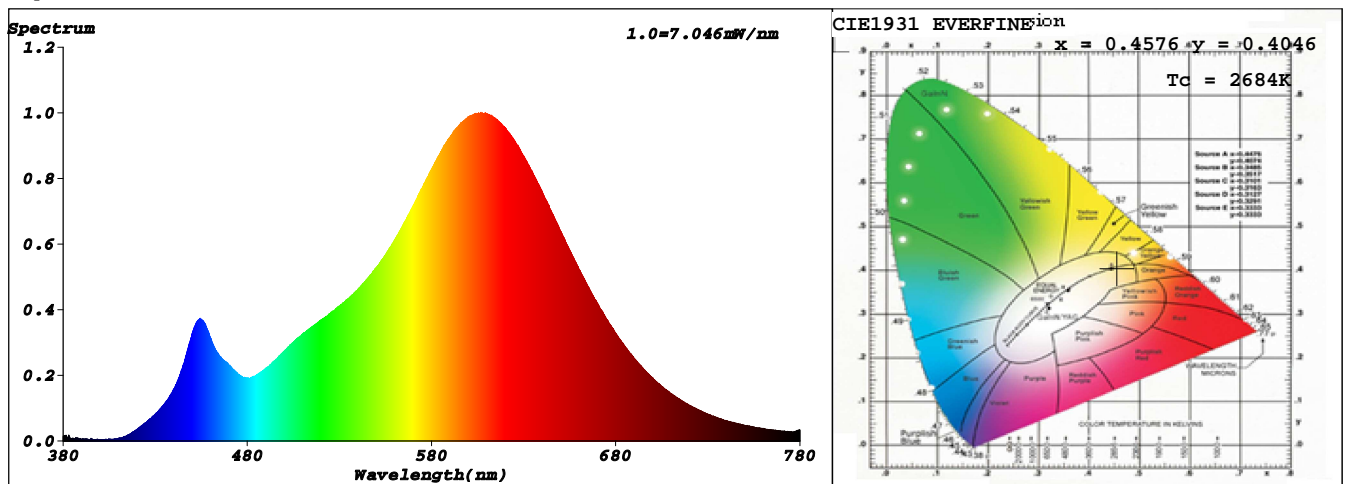
Test Condition

Temperature : 25.3Deg
Scan Range : 380nm-780nm

RH : 65.0%
IP : 47347 (72%)
T : 189 ms
Delicacy : High

Test Type : Fast Test

Spectroradiometric Parameters



Spectral Distribution

CIE1931 Chromaticity Diagram

CIE Color Parameters:

Chromaticity Coordinate: $x=0.4576$ $y=0.4046$ $u'=0.2638$ $v'=0.5247$ ($duv=-2.06e-03$)

CCT: $T_c=2684K$ Prcp WaveL: $\lambda_p=585.0nm$ Purity=58.8%

Peak WaveL: $\lambda_p=609nm$ Half Width: $\Delta\lambda_p=116.4nm$ Ratio: R=27.2% G=70.6% B=2.2%

Render Index: $R_a=82.3$

R1 =81	R2 =93	R3 =93	R4 =79	R5 =82	R6 =93	R7 =80	
R8 =57	R9 =10	R10=85	R11=78	R12=81	R13=84	R14=97	R15=74

Photo Parameters:

Flux = 345.7 lm Eff. : 42.57 lm/W $F_e = 1.102 W$

Fmol(umol/s): 5.424e-001 Fluorescence and blue light ratio: 10.24 Fluorescent efficiency: 11.19

Electrical parameters:

V = 230.0 V I = 0.03900 A P = 8.120 W PF = 0.9052

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Spectrum Test Report

RICHTER

Product : Midgard K831 Aluminium
Sample No. : Test 6_40 Minutes
Manufacturer : Midgard

Date : 2017-12-21
Instrument : HAAS-2000(EVERFINE)
Operator : JB

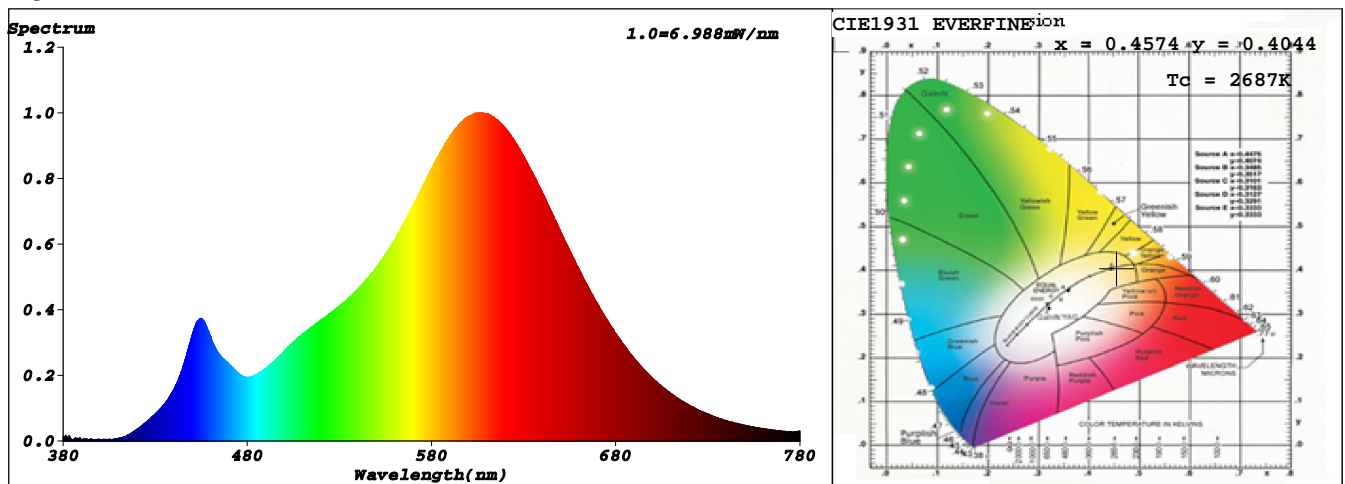
Test Condition

Temperature : 25.3Deg
Scan Range : 380nm-780nm

RH : 65.0%
IP : 47085 (72%)
T : 189 ms
Delicacy : High

Test Type : Fast Test

Spectroradiometric Parameters



Spectral Distribution

CIE1931 Chromaticity Diagram

CIE Color Parameters:

Chromaticity Coordinate: $x=0.4574$ $y=0.4044$ $u'=0.2637$ $v'=0.5246$ ($duv=-2.08e-03$)

CCT: $T_c=2687K$ Prcp WaveL: $\lambda_p=585.0nm$ Purity=58.7%

Peak WaveL: $\lambda_p=604nm$ Half Width: $\Delta\lambda_p=116.0nm$ Ratio: R=27.2% G=70.6% B=2.2%

Render Index: $R_a=82.3$

R1 =81	R2 =93	R3 =93	R4 =79	R5 =82	R6 =93	R7 =80	
R8 =57	R9 =10	R10=85	R11=78	R12=81	R13=84	R14=97	R15=74

Photo Parameters:

Flux = 343.4 lm Eff. : 42.27 lm/W $F_e = 1.094 W$

Fmol($\mu mol/s$): 5.388e-001 Fluorescence and blue light ratio: 10.25 Fluorescent efficiency: 11.12

Electrical parameters:

V = 230.0 V I = 0.03900 A P = 8.124 W PF = 0.9057

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Spectrum Test Report

RICHTER

Product : Midgard K831 Aluminium
Sample No. : Test 7_50 Minutes
Manufacturer : Midgard

Date : 2017-12-21
Instrument : HAAS-2000(EVERFINE)
Operator : JB

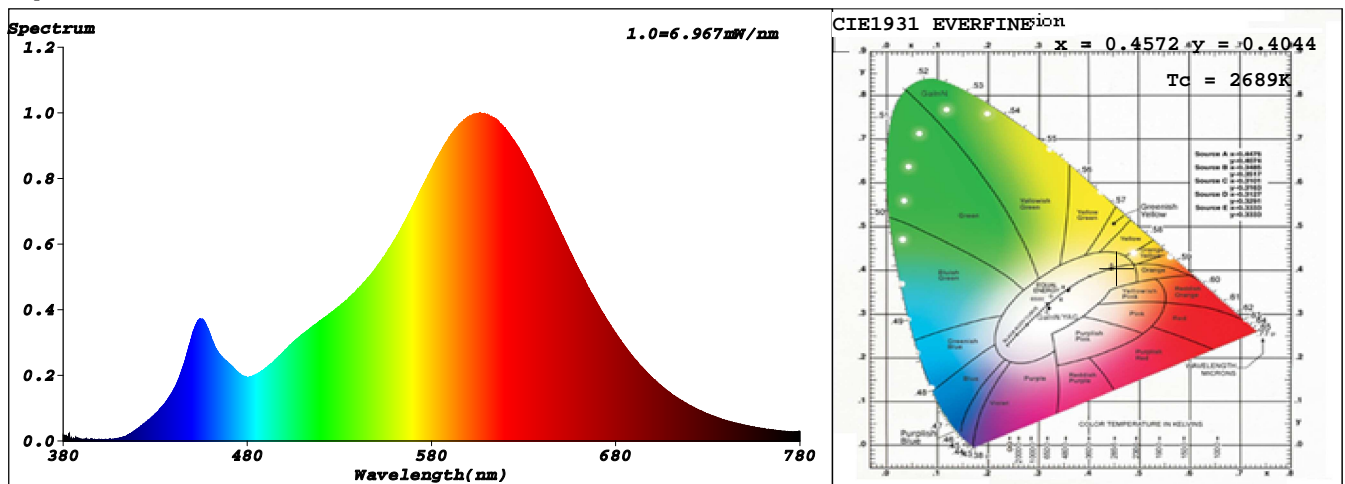
Test Condition

Temperature : 25.3Deg
Scan Range : 380nm-780nm

RH : 65.0%
IP : 46837 (71%)
T : 189 ms
Delicacy : High

Test Type : Fast Test

Spectroradiometric Parameters



Spectral Distribution

CIE1931 Chromaticity Diagram

CIE Color Parameters:

Chromaticity Coordinate: $x=0.4572$ $y=0.4044$ $u'=0.2636$ $v'=0.5246$ ($duv=-2.10e-03$)

CCT: $T_c=2689K$ Prcp WaveL: $\lambda_p=585.0nm$ Purity=58.6%

Peak WaveL: $\lambda_p=606nm$ Half Width: $\Delta\lambda_p=116.1nm$ Ratio: R=27.2% G=70.6% B=2.2%

Render Index: $R_a=82.2$

R1 =81	R2 =93	R3 =93	R4 =79	R5 =82	R6 =93	R7 =80
R8 =57	R9 =10	R10=85	R11=78	R12=81	R13=84	R14=97
R15=74						

Photo Parameters:

Flux = 341.9 lm Eff. : 42.08 lm/W $F_e = 1.090 W$

Fmol($\mu mol/s$): 5.364e-001 Fluorescence and blue light ratio: 10.29 Fluorescent efficiency: 11.08

Electrical parameters:

V = 230.0 V I = 0.03900 A P = 8.125 W PF = 0.9058

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