

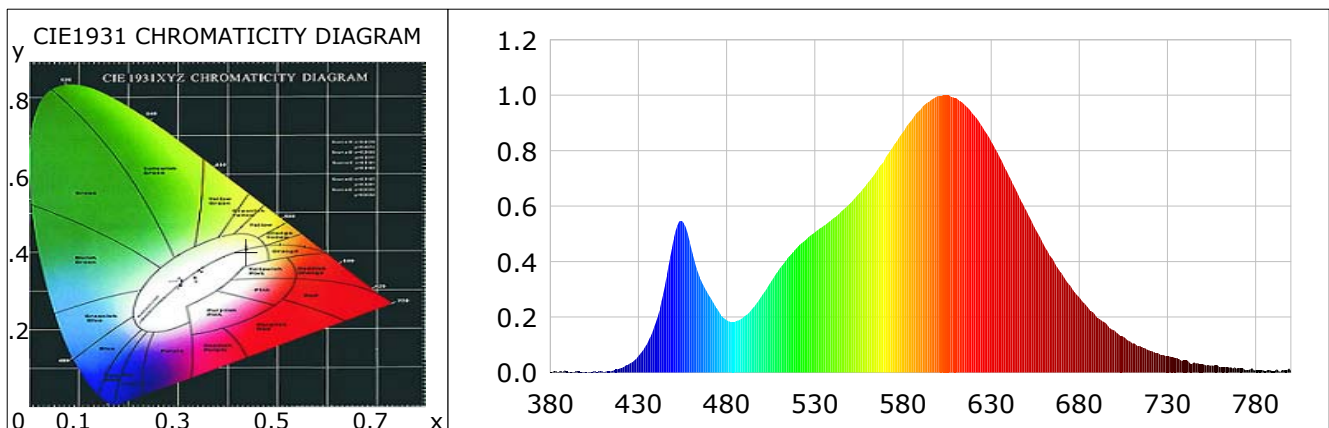
Lightsource Test Report

Product Infomation

Product Category: RFE-0098A-3000K-2LING Product Number: 1

CIE Colorimetric Parameters

Chromaticity coordinates: $x=0.4373$ $y=0.4025$ $u(u')=0.2515$ $v=0.3472$ $v'=0.5208$
 CCT: $T_c=2981K$ ($duv=-0.00068$) Color Ratio: $R=0.230$ $G=0.745$ $B=0.025$
 Peak Wavelength: 605.5nm Half Bandwidth: 127.7nm
 Dominant Wavelength: 583.1nm Color Purity: 0.521
 CRI: $R_a=81.9$ TM30: $R_f=81$, $R_g=95$
 $R1=80$ $R2=90$ $R3=96$ $R4=79$ $R5=80$ $R6=88$ $R7=81$ $R8=58$
 $R9=5$ $R10=78$ $R11=77$ $R12=67$ $R13=82$ $R14=98$ $R15=73$
 Color Quality Scale: $Q_a=81.4$, $Q_f=83.0$, $Q_p=83.0$, $Q_g=91.3$
 $Q1=78$ $Q2=95$ $Q3=81$ $Q4=77$ $Q5=81$ $Q6=82$ $Q7=82$ $Q8=85$
 $Q9=96$ $Q10=89$ $Q11=85$ $Q12=83$ $Q13=82$ $Q14=72$ $Q15=74$



Photometric Parameters

Luminous Flux: 1044.89 lm Efficiency: 101.15 lm/W Radiant Power: 3.163 W
 EEI: 0.13 Energy Efficiency Class: A+ (EU 874-2012)

Electric Parameters

Voltage: 220.10V Current: 0.0520A Power: 10.33W
 Power Factor: 0.9040 Frequency: 49.99Hz

Test Infomation

Scan Range: 380~800:1nm
 Stabilization Time: 30 Sec
 Max of Signal: 42770 (4794)

Photometric Method: sphere-spectroradiometer
 Photometric Condition: Sphere diameter: 1.50m, 4 π
 CCD Integration Time: 610.97 ms

Condition: $T_x:31.7^\circ C$, $T_i:0.0^\circ C$, R.H.:60%
 Test Lab: LH-SYS
 Operator: LYF

Test Device: Inventfine CMS-2
 Test Time: 2002-01-01 05:03:43
 Inspector:

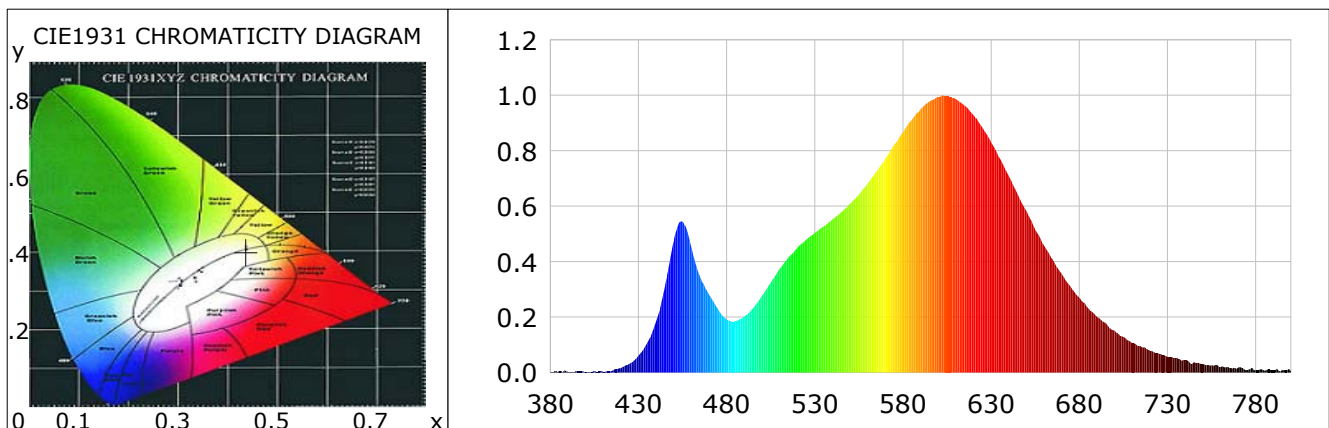
Lightsource Test Report

Product Information

Product Category: RFE-0098A-3000K-2LING Product Number: 2

CIE Colorimetric Parameters

Chromaticity coordinates: $x=0.4371$ $y=0.4022$ $u(u')=0.2515$ $v=0.3471$ $v'=0.5207$
 CCT: $T_c=2983K$ ($duv=-0.00077$) Color Ratio: $R=0.230$ $G=0.745$ $B=0.025$
 Peak Wavelength: 602.3nm Half Bandwidth: 127.1nm
 Dominant Wavelength: 583.2nm Color Purity: 0.519
 CRI: $R_a=81.9$ TM30: $R_f=81$, $R_g=95$
 $R1=80$ $R2=90$ $R3=96$ $R4=79$ $R5=80$ $R6=88$ $R7=81$ $R8=58$
 $R9=5$ $R10=78$ $R11=77$ $R12=68$ $R13=82$ $R14=98$ $R15=73$
 Color Quality Scale: $Q_a=81.4$, $Q_f=82.9$, $Q_p=82.9$, $Q_g=91.3$
 $Q1=78$ $Q2=95$ $Q3=81$ $Q4=77$ $Q5=81$ $Q6=82$ $Q7=82$ $Q8=85$
 $Q9=96$ $Q10=89$ $Q11=85$ $Q12=83$ $Q13=82$ $Q14=72$ $Q15=74$



Photometric Parameters

Luminous Flux: 1046.10 lm Efficiency: 100.49 lm/W Radiant Power: 3.169 W
 EEI: 0.13 Energy Efficiency Class: A+ (EU 874-2012)

Electric Parameters

Voltage: 220.10V Current: 0.0520A Power: 10.41W
 Power Factor: 0.9040 Frequency: 49.99Hz

Test Information

Scan Range: 380~800:1nm
 Stabilization Time: 30 Sec
 Max of Signal: 42875 (4798)

Photometric Method: sphere-spectroradiometer
 Photometric Condition: Sphere diameter: 1.50m, 4T
 CCD Integration Time: 610.97 ms

Condition: $T_x=31.8^\circ C$, $T_i=0.0^\circ C$, R.H.:60%
 Test Lab: LH-SYS
 Operator: LYF

Test Device: Inventfine CMS-2
 Test Time: 2002-01-01 05:05:36
 Inspector:

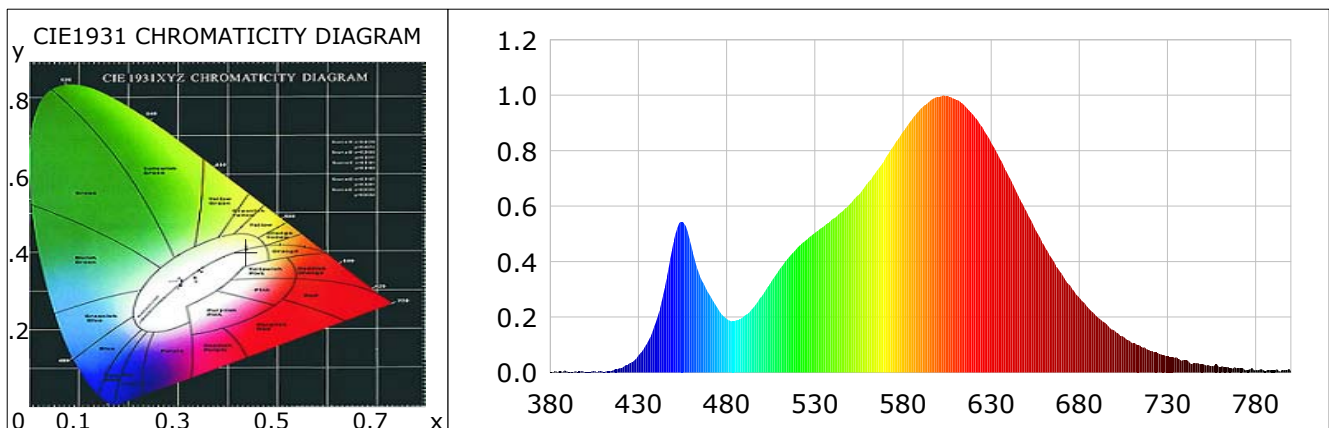
Lightsource Test Report

Product Infomation

Product Category: RFE-0098A-3000K-2LING Product Number: 3

CIE Colorimetric Parameters

Chromaticity coordinates: $x=0.4369$ $y=0.4021$ $u(u')=0.2514$ $v=0.3471$ $v'=0.5206$
 CCT: $T_c=2984K$ ($duv=-0.00078$) Color Ratio: $R=0.230$ $G=0.745$ $B=0.025$
 Peak Wavelength: 603.0nm Half Bandwidth: 127.2nm
 Dominant Wavelength: 583.2nm Color Purity: 0.519
 CRI: $R_a=81.9$ TM30: $R_f=81$, $R_g=95$
 $R1=80$ $R2=90$ $R3=96$ $R4=79$ $R5=80$ $R6=88$ $R7=81$ $R8=57$
 $R9=5$ $R10=78$ $R11=77$ $R12=68$ $R13=82$ $R14=98$ $R15=73$
 Color Quality Scale: $Q_a=81.4$, $Q_f=82.9$, $Q_p=82.9$, $Q_g=91.3$
 $Q1=78$ $Q2=95$ $Q3=81$ $Q4=77$ $Q5=80$ $Q6=82$ $Q7=82$ $Q8=85$
 $Q9=96$ $Q10=89$ $Q11=85$ $Q12=82$ $Q13=82$ $Q14=72$ $Q15=74$



Photometric Parameters

Luminous Flux: 1044.11 lm Efficiency: 100.01 lm/W Radiant Power: 3.164 W
 EEI: 0.13 Energy Efficiency Class: A+ (EU 874-2012)

Electric Parameters

Voltage: 220.10V Current: 0.0520A Power: 10.44W
 Power Factor: 0.9050 Frequency: 49.99Hz

Test Infomation

Scan Range: 380~800:1nm
 Stabilization Time: 30 Sec
 Max of Signal: 42869 (4803)

Photometric Method: sphere-spectroradiometer
 Photometric Condition: Sphere diameter: 1.50m, 4T
 CCD Integration Time: 610.97 ms

Condition: $T_x=31.8^\circ C$, $T_i=0.0^\circ C$, R.H.:60%
 Test Lab: LH-SYS
 Operator: LYF

Test Device: Inventfine CMS-2
 Test Time: 2002-01-01 05:06:31
 Inspector:

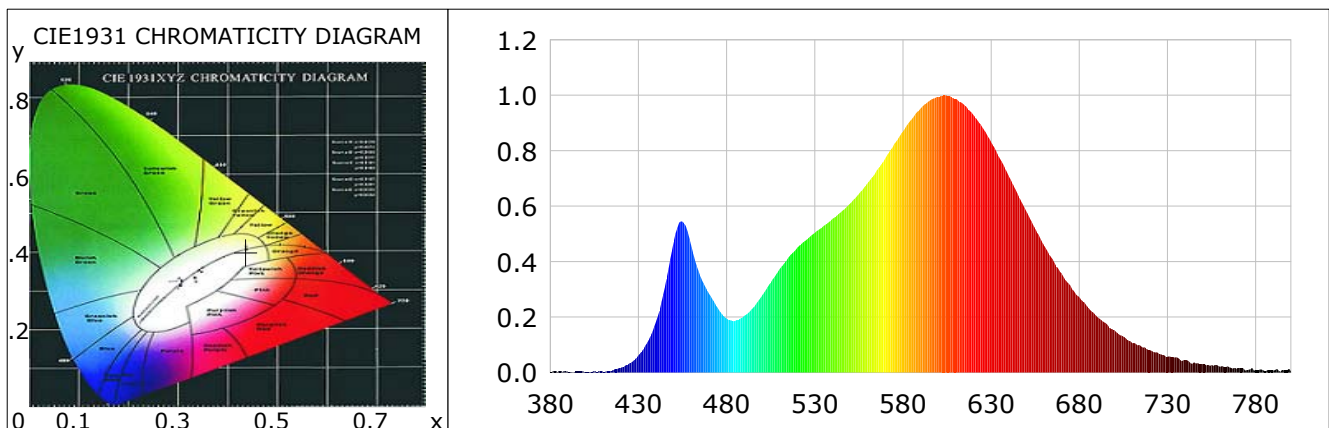
Lightsource Test Report

Product Infomation

Product Category: RFE-0098A-3000K-2LING Product Number: 4

CIE Colorimetric Parameters

Chromaticity coordinates: $x=0.4368$ $y=0.4020$ $u(u')=0.2514$ $v=0.3470$ $v'(v')=0.5206$
 CCT: $T_c=2985K$ ($duv=-0.00080$) Color Ratio: $R=0.230$ $G=0.745$ $B=0.025$
 Peak Wavelength: 603.8nm Half Bandwidth: 127.5nm
 Dominant Wavelength: 583.2nm Color Purity: 0.518
 CRI: $R_a=81.9$ TM30: $R_f=81$, $R_g=95$
 $R1=80$ $R2=90$ $R3=96$ $R4=79$ $R5=80$ $R6=88$ $R7=81$ $R8=57$
 $R9=5$ $R10=78$ $R11=77$ $R12=68$ $R13=82$ $R14=98$ $R15=73$
 Color Quality Scale: $Q_a=81.3$, $Q_f=82.9$, $Q_p=82.9$, $Q_g=91.3$
 $Q1=78$ $Q2=95$ $Q3=81$ $Q4=77$ $Q5=80$ $Q6=82$ $Q7=82$ $Q8=85$
 $Q9=96$ $Q10=89$ $Q11=85$ $Q12=82$ $Q13=82$ $Q14=72$ $Q15=74$



Photometric Parameters

Luminous Flux: 1044.73 lm Efficiency: 99.59 lm/W Radiant Power: 3.166 W
 EEI: 0.13 Energy Efficiency Class: A+ (EU 874-2012)

Electric Parameters

Voltage: 220.20V Current: 0.0530A Power: 10.49W
 Power Factor: 0.9060 Frequency: 49.99Hz

Test Infomation

Scan Range: 380~800:1nm
 Stabilization Time: 30 Sec
 Max of Signal: 42927 (4805)

Photometric Method: sphere-spectroradiometer
 Photometric Condition: Sphere diameter: 1.50m, 4T
 CCD Integration Time: 610.97 ms

Condition: $T_x=31.8^\circ C$, $T_i=0.0^\circ C$, R.H.:60%
 Test Lab: LH-SYS
 Operator: LYF

Test Device: Inventfine CMS-2
 Test Time: 2002-01-01 05:07:22
 Inspector:

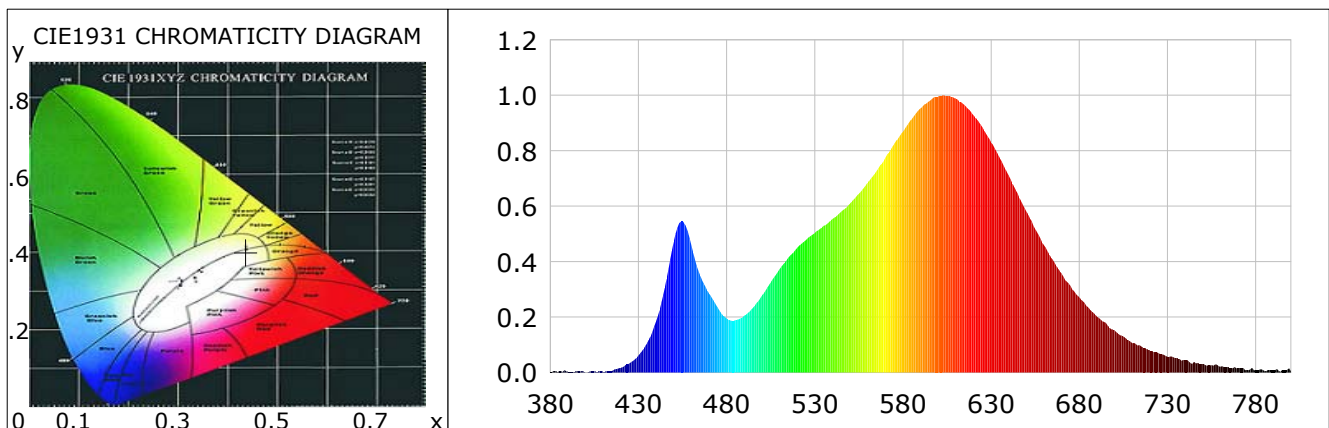
Lightsource Test Report

Product Infomation

Product Category: RFE-0098A-3000K-2LING Product Number: 5

CIE Colorimetric Parameters

Chromaticity coordinates: $x=0.4367$ $y=0.4020$ $u(u')=0.2514$ $v=0.3470$ $v'(v')=0.5205$
 CCT: $T_c=2986K$ ($duv=-0.00082$) Color Ratio: $R=0.230$ $G=0.745$ $B=0.025$
 Peak Wavelength: 602.8nm Half Bandwidth: 127.4nm
 Dominant Wavelength: 583.2nm Color Purity: 0.517
 CRI: $R_a=81.8$ TM30: $R_f=81$, $R_g=95$
 $R1=80$ $R2=90$ $R3=96$ $R4=79$ $R5=80$ $R6=88$ $R7=81$ $R8=57$
 $R9=5$ $R10=78$ $R11=77$ $R12=68$ $R13=82$ $R14=98$ $R15=73$
 Color Quality Scale: $Q_a=81.3$, $Q_f=82.8$, $Q_p=82.9$, $Q_g=91.3$
 $Q1=78$ $Q2=95$ $Q3=81$ $Q4=77$ $Q5=80$ $Q6=82$ $Q7=82$ $Q8=85$
 $Q9=96$ $Q10=89$ $Q11=85$ $Q12=82$ $Q13=82$ $Q14=72$ $Q15=74$



Photometric Parameters

Luminous Flux: 1044.15 lm Efficiency: 99.54 lm/W Radiant Power: 3.165 W
 EEI: 0.13 Energy Efficiency Class: A+ (EU 874-2012)

Electric Parameters

Voltage: 219.90V Current: 0.0530A Power: 10.49W
 Power Factor: 0.9040 Frequency: 49.99Hz

Test Infomation

Scan Range: 380~800:1nm
 Stabilization Time: 30 Sec
 Max of Signal: 42867 (4807)

Photometric Method: sphere-spectroradiometer
 Photometric Condition: Sphere diameter: 1.50m, 4T
 CCD Integration Time: 610.97 ms

Condition: $T_x=31.8^\circ C$, $T_i=0.0^\circ C$, R.H.:60%
 Test Lab: LH-SYS
 Operator: LYF

Test Device: Inventfine CMS-2
 Test Time: 2002-01-01 05:08:03
 Inspector:

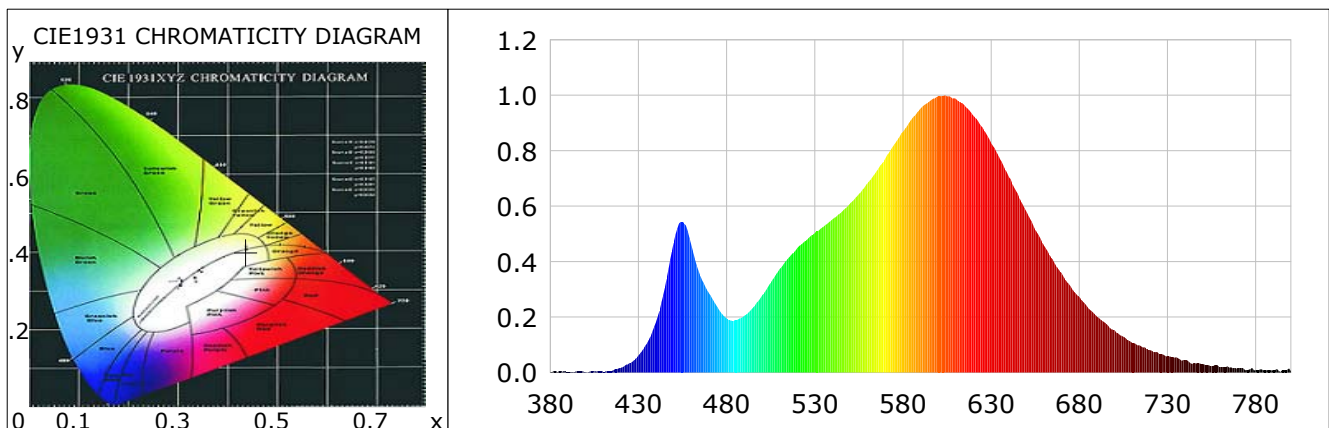
Lightsource Test Report

Product Information

Product Category: RFE-0098A-3000K-2LING Product Number: 6

CIE Colorimetric Parameters

Chromaticity coordinates: $x=0.4367$ $y=0.4019$ $u(u')=0.2514$ $v=0.3470$ $v'(v')=0.5205$
 CCT: $T_c=2986K$ ($duv=-0.00085$) Color Ratio: R=0.230 G=0.745 B=0.025
 Peak Wavelength: 603.8nm Half Bandwidth: 127.2nm
 Dominant Wavelength: 583.2nm Color Purity: 0.517
 CRI: $R_a=81.8$ TM30: $R_f=81$, $R_g=95$
 R1 =80 R2 =90 R3 =96 R4 =79 R5 =80 R6 =88 R7 =81 R8 =57
 R9 =5 R10=78 R11=77 R12=68 R13=82 R14=98 R15=73
 Color Quality Scale: $Q_a=81.3$, $Q_f=82.8$, $Q_p=82.9$, $Q_g=91.3$
 Q1 =78 Q2 =95 Q3 =81 Q4 =77 Q5 =80 Q6 =82 Q7 =82 Q8 =85
 Q9 =96 Q10=89 Q11=85 Q12=82 Q13=82 Q14=72 Q15=74



Photometric Parameters

Luminous Flux: 1043.37 lm Efficiency: 99.46 lm/W Radiant Power: 3.164 W
 EEI: 0.13 Energy Efficiency Class: A+ (EU 874-2012)

Electric Parameters

Voltage: 219.90V Current: 0.0530A Power: 10.49W
 Power Factor: 0.9050 Frequency: 49.99Hz

Test Information

Scan Range: 380~800:1nm
 Stabilization Time: 30 Sec
 Max of Signal: 42898 (4809)

Photometric Method: sphere-spectroradiometer
 Photometric Condition: Sphere diameter: 1.50m, 4T
 CCD Integration Time: 610.97 ms

Condition: $T_x=31.8^\circ C$, $T_i=0.0^\circ C$, R.H.:60%
 Test Lab: LH-SYS
 Operator: LYF

Test Device: Inventfine CMS-2
 Test Time: 2002-01-01 05:08:43
 Inspector:

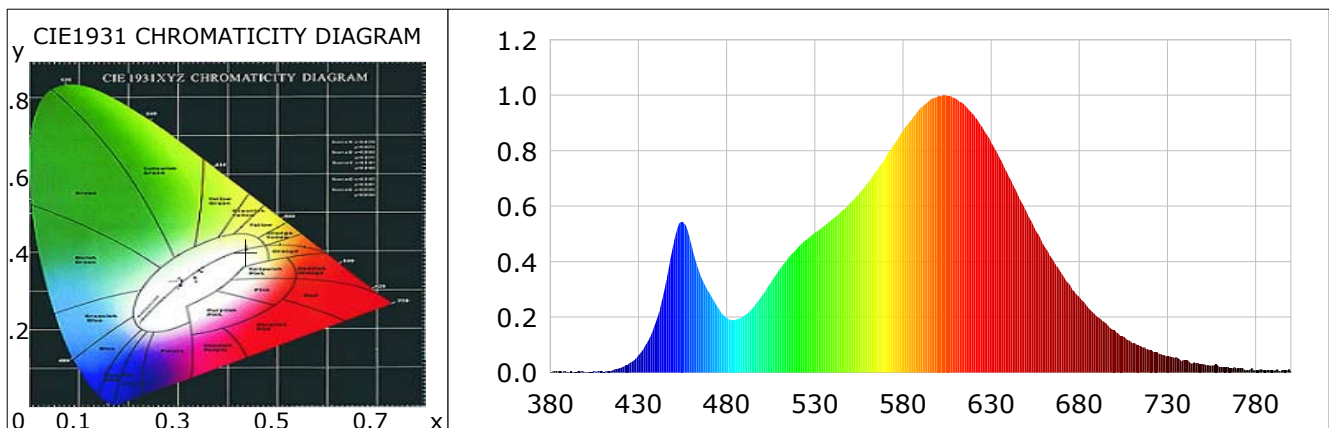
Lightsource Test Report

Product Infomation

Product Category: RFE-0098A-3000K-2LING Product Number: 7

CIE Colorimetric Parameters

Chromaticity coordinates: $x=0.4367$ $y=0.4018$ $u(u')=0.2514$ $v=0.3470$ $v'(v')=0.5205$
 CCT: $T_c=2986K$ ($duv=-0.00086$) Color Ratio: R=0.230 G=0.745 B=0.025
 Peak Wavelength: 603.6nm Half Bandwidth: 127.3nm
 Dominant Wavelength: 583.2nm Color Purity: 0.517
 CRI: Ra= 81.8 TM30: Rf= 81, Rg= 95
 R1 =80 R2 =90 R3 =96 R4 =79 R5 =80 R6 =88 R7 =81 R8 =57
 R9 =5 R10=78 R11=77 R12=68 R13=82 R14=98 R15=73
 Color Quality Scale: Qa= 81.3, Qf= 82.8, Qp= 82.8, Qg= 91.2
 Q1 =78 Q2 =95 Q3 =81 Q4 =77 Q5 =80 Q6 =82 Q7 =82 Q8 =85
 Q9 =96 Q10=89 Q11=85 Q12=82 Q13=82 Q14=72 Q15=74



Photometric Parameters

Luminous Flux: 1041.87 lm Efficiency: 98.94 lm/W Radiant Power: 3.159 W
 EEI: 0.13 Energy Efficiency Class: A+ (EU 874-2012)

Electric Parameters

Voltage: 220.10V Current: 0.0530A Power: 10.53W
 Power Factor: 0.9050 Frequency: 49.99Hz

Test Infomation

Scan Range: 380~800:1nm
 Stabilization Time: 30 Sec
 Max of Signal: 42813 (4814)

Photometric Method: sphere-spectroradiometer
 Photometric Condition: Sphere diameter: 1.50m, 4T
 CCD Integration Time: 610.97 ms

Condition: Tx:31.8'C, Ti:0.0'C, R.H.:60%
 Test Lab: LH-SYS
 Operator: LYF

Test Device: Inventfine CMS-2
 Test Time: 2002-01-01 05:10:27
 Inspector:

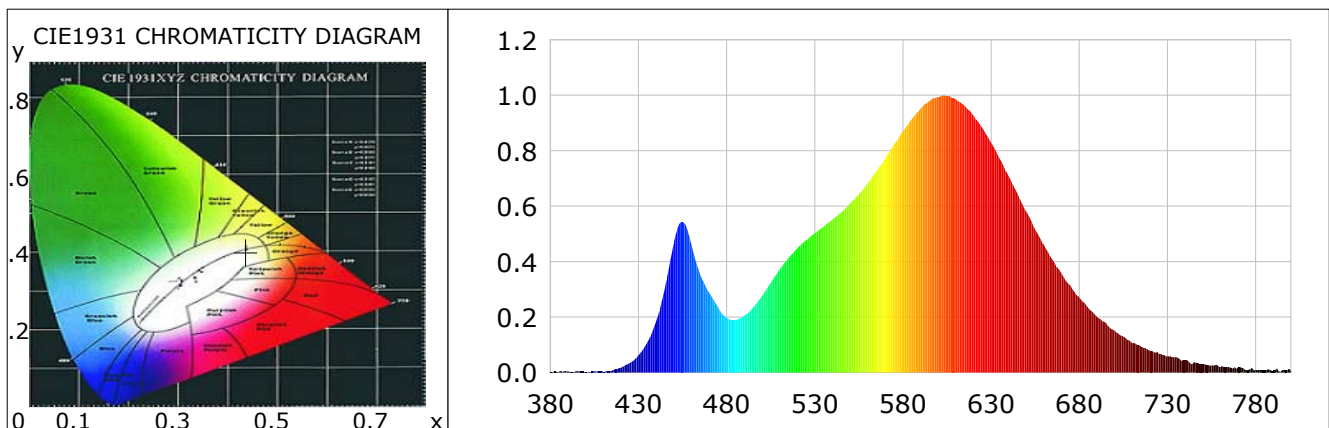
Lightsource Test Report

Product Infomation

Product Category: RFE-0098A-3000K-2LING Product Number: 8

CIE Colorimetric Parameters

Chromaticity coordinates: $x=0.4366$ $y=0.4018$ $u(u')=0.2514$ $v=0.3469$ $v'=0.5204$
 CCT: $T_c=2987K$ ($duv=-0.00088$) Color Ratio: $R=0.230$ $G=0.745$ $B=0.025$
 Peak Wavelength: 603.1nm Half Bandwidth: 127.1nm
 Dominant Wavelength: 583.2nm Color Purity: 0.516
 CRI: $R_a=81.8$ TM30: $R_f=81$, $R_g=95$
 $R1=80$ $R2=90$ $R3=96$ $R4=78$ $R5=80$ $R6=88$ $R7=81$ $R8=57$
 $R9=5$ $R10=78$ $R11=77$ $R12=68$ $R13=82$ $R14=98$ $R15=73$
 Color Quality Scale: $Q_a=81.3$, $Q_f=82.8$, $Q_p=82.8$, $Q_g=91.2$
 $Q1=78$ $Q2=95$ $Q3=81$ $Q4=77$ $Q5=80$ $Q6=82$ $Q7=82$ $Q8=85$
 $Q9=96$ $Q10=89$ $Q11=85$ $Q12=82$ $Q13=82$ $Q14=72$ $Q15=74$



Photometric Parameters

Luminous Flux: 1040.88 lm Efficiency: 98.57 lm/W Radiant Power: 3.156 W
 EEI: 0.13 Energy Efficiency Class: A+ (EU 874-2012)

Electric Parameters

Voltage: 220.00V Current: 0.0530A Power: 10.56W
 Power Factor: 0.9060 Frequency: 49.99Hz

Test Infomation

Scan Range: 380~800:1nm
 Stabilization Time: 30 Sec
 Max of Signal: 42831 (4817)

Photometric Method: sphere-spectroradiometer
 Photometric Condition: Sphere diameter: 1.50m, 4T
 CCD Integration Time: 610.97 ms

Condition: $T_x:31.9^{\circ}C$, $T_i:0.0^{\circ}C$, R.H.:60%
 Test Lab: LH-SYS
 Operator: LYF

Test Device: Inventfine CMS-2
 Test Time: 2002-01-01 05:11:43
 Inspector: