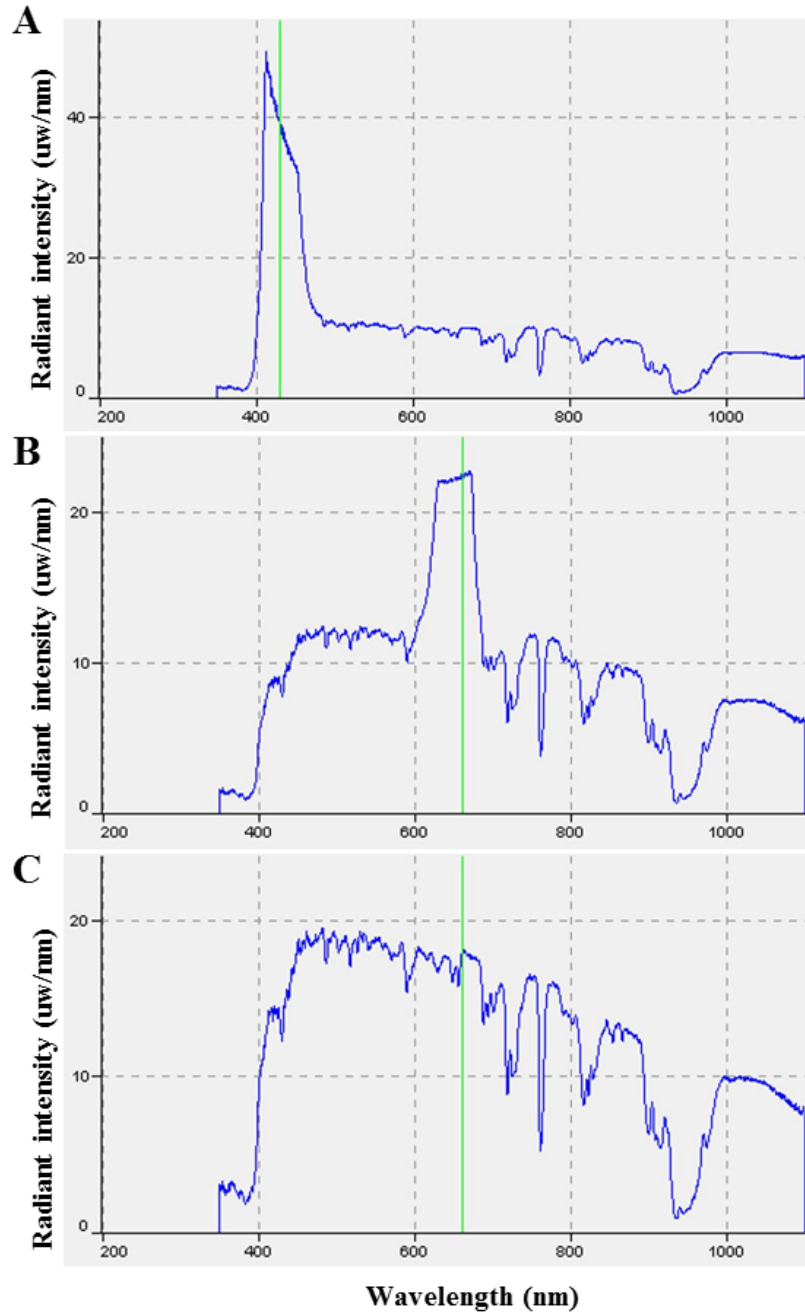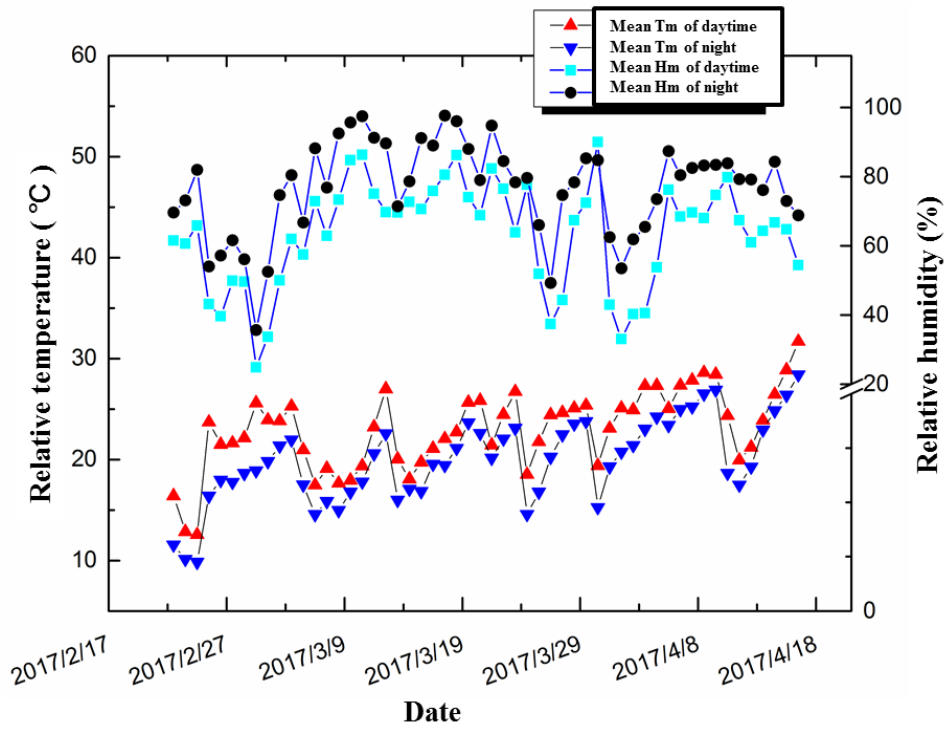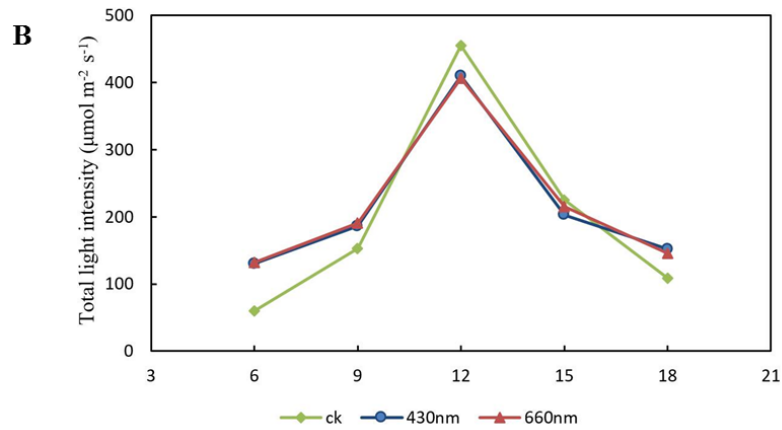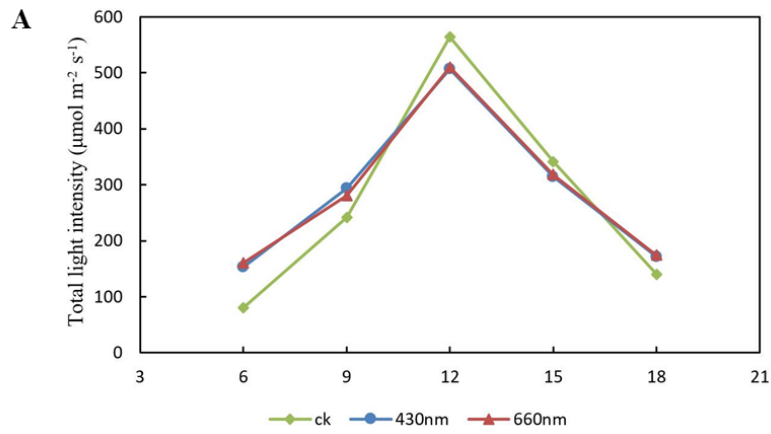**Appendix A Light spectrum of supplemental blue light, red light and natural light.** Light spectrum of green house after supplemental blue light **(A)**, red light **(B)** treatment and natural light **(C)**.

Appendix B Temperature and humidity conditions of the greenhouse during the supplemental light treatment.

Appendix C The total light intensity variation of greenhouse under control and supplemental light treatment during two kinds of typical day: cloudy day and sunny day. The total light intensity variation of greenhouse under control and supplemental light treatment during a sunny day (A) and a cloudy day (B).

Appendix D List of primers used in the expression studies.

Gene locus	Forward primer（5'-3'）	Reverse primer（5'-3'）
Solyc03g031860	PSY1F	GATGAGGCAGAGAAAGGCGT
	PSY1R	GCGGTACAAGACCAAAGATGC
Solyc02g081330	PSY2F	ACAGAAGAAGAGCTATCTGGGC
	PSY2R	TATCTTCCAGCCTTGCCTCC
Solyc01g097810	ZDSF	TCGGAGTGCCTGTTGTTACC
	ZDSR	GCTCCAAGTCCTGCAACTCT
Solyc10g079480	LCYbF	AAGAACGAATGGTGGCTCGT
	LCYbR	ACCACCGATTCCAACGACTC
Solyc12g008980	LCYeF	GCCGTGCCTATGGAAGAGTT
	LCYeR	AAAACACCTGCCTCCACACA
Solyc10g044670	PHYAF	CTGGTTTTCCTGGGGCTCTT
	PHYAR	CCTGAACCAGAACAGCCAGT
Solyc01g059870	PHYB1F	GGCCAGGACACAGACAAGTT
	PHYB1R	CTGCAATTCGGGACTGGCTA
Solyc05g053410	PHYB2F	CCACAGTTCAGCTCGGTTCA
	PHYB2R	TTTTCAGCCAACTGCGATGC
Solyc04g074180	CRY1aF	TCGAACCAATGCTACCCCAC
	CRY1aR	ACACCCCCATCCCTTTCTCT
Solyc12g057040	CRY1bF	AGGCCATTGCTTGGTCAGTT
	CRY1bR	CCTTGCCTCCACGCCTTAAA
Solyc08g074270	CRY3F	GAACCTAGTGAAGCGGGGAC
	CRY3R	CTGCATGTTTCCTTGTGGGC
Solyc11g072710	PHOT1F	TTCGAGAGCTTCCAGATGCC
	PHOT1R	TGCTTTCCAAGATGGGCTGT
Solyc01g097770	PHOT2F	CGGTAAGCCTTGCAGCTAGA
	PHOT2R	AGAGGCCAAGCTATTCCACG
Solyc08g061130	HY5F	AGCGACGAGTTCTATTGCCG
	HY5R	TCCGGCACTCTTCTGATCTC
Solyc01g102300	PIF3F	AAGGGGTTCCGGTGGAGATA
	PIF3R	TGTCTGATTCTGTGGGCAGC
Solyc07g043580	PIF4F	TACAGCGACCAATAGCCAGG
	PIF4R	TGGGCTGACTTGTTTCCTCC
Solyc01g056940	qUBIF	CCAAGATCCAGGACAAGGAA
	qUBIR	AAATCAAACGCTGCTGGTCT
Solyc01g056940	SIUBIF	CTAACGGGGAAGACGATCACCC
	SIUBIR	TCCCAAGGGTTGTCACATACATC