Table S1. The concentration of mineral element in different NSC.

NSC \ Mineral nutrition (mg·L-1)	N	P	K	Ca	Mg	S	Fe	B	Mn	Zn	Cu	Mo
The full-strength	210	31	234	160	48	64	5.6	0.50	0.50	0.050	0.020	0.010
1/4	53	8	59	40	12	16	1.4	0.13	0.13	0.0125	0.005	0.003
1/2	105	16	117	80	24	32	2.8	0.25	0.25	0.025	0.010	0.005
3/4	158	23	176	120	36	48	4.2	0.38	0.38	0.038	0.015	0.008

The ratio of NPK in NSC was 7:1:8.

Table S2. Two-way ANOVA analysis of nutritional quality accumulated under the interaction of photoperiod and NSC.

Variable	Photoperiod	NSC	Photoperiod interacted with NSC
Soluble protein	**	**	**
Nitrate	NS	**	*
Vitamin C	**	**	NS
Soluble sugar	**	*	NS
Free amino acid	**	**	**

* and ** indicated the significant difference at $p \leq 0.01$ and $p \leq 0.05$, respectively. NS = no significance. Significant differences

in the treatments were performed by SPSS 17.0 for ANOVA. The two-way ANOVA was carried out the interactive type.

Table S3. Two-way ANOVA analysis of mineral element accumulated under the interaction of photoperiod and NSC.

Variable (Total)	Photoperiod	NSC	Photoperiod interacted with NSC
N	**	**	**
P	**	**	**
K	**	**	**
Ca	**	**	**
Mg	**	**	**
Zn	**	**	**

* and ** indicated the significant difference at $p \leq 0.05$ and $p \leq 0.01$, respectively. NS = no significance. Significant differences

in the treatments were performed by SPSS 17.0 for ANOVA. The two-way ANOVA was carried out the interactive type.

Table S4. Two-way ANOVA analysis of antioxidant component accumulated under the interaction of photoperiod and NSC.

Variable	Photoperiod	NSC	Photoperiod interacted with NSC
Anthocyanin	**	**	**
Polyphenol	**	NS	**
Flavonoid	**	*	**
FRAP	**	*	**
DPPH	**	**	**

* and ** indicated the significant difference at $p \leq 0.05$ and $p \leq 0.01$, respectively. NS = no significance. Significant differences

in the treatments were performed by SPSS 17.0 for ANOVA. The two-way ANOVA was carried out the interactive type.
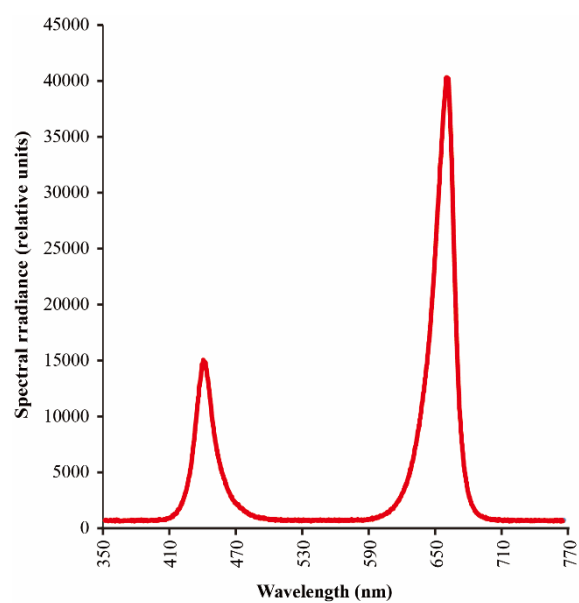
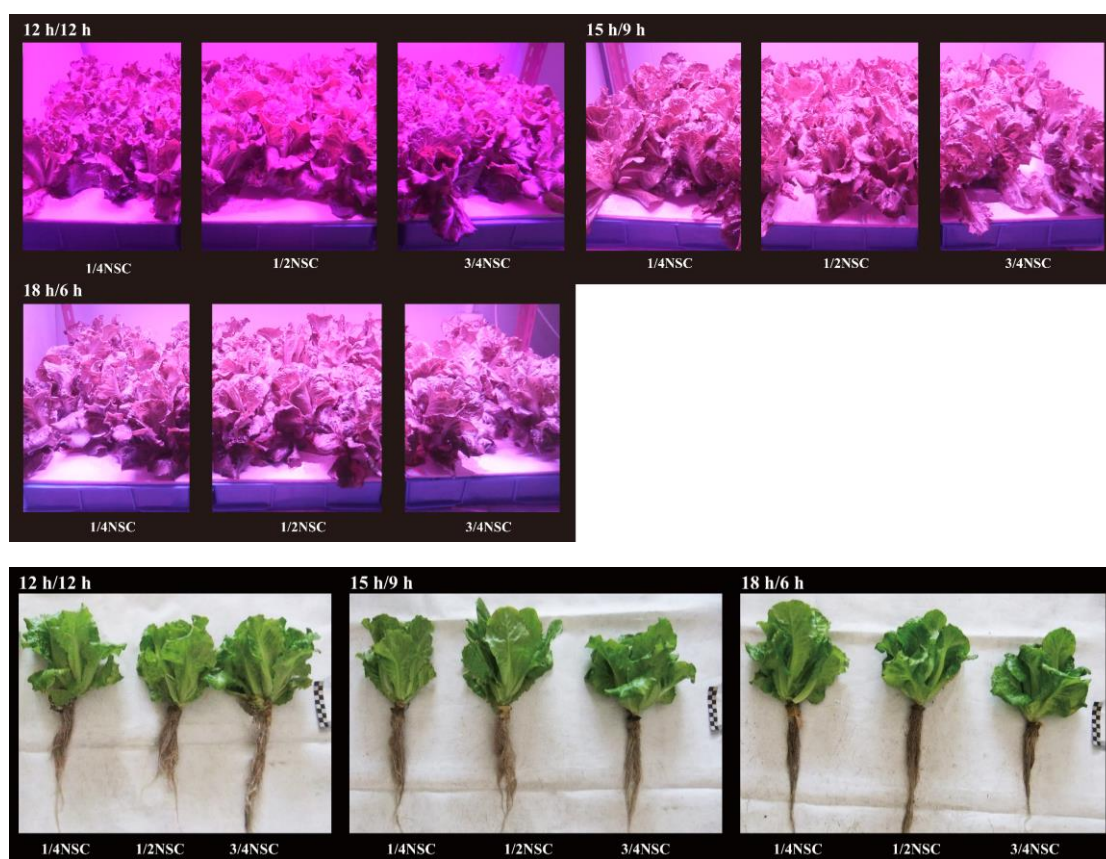**Fig. S1.** The Spectral distributions of LEDs in this study.

Fig. S2. The phenotype of lettuce plant under the interaction of photoperiod and NSC.