



*Signature*  
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# LED TUBE T8 - CLEAR

## LED FULL SPECTRUM HORTICULTURE LIGHTING

THE LIGHT YOU CAN TRUST

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TIS. 1955-2551  
TIS. 2779-2562



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# Green Plants

## Specification

LED TUBE T8  
CLEAR

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Spectrum	White Light Rsp0a	White Light Rsp0a
Model	G01	G01
Color Temperature (TC)	3000K	5000K
Power Consumption	10W G13 / 20W G13 / 36IP	10W G13 / 20W G13 / 36IP
LED Light Source	Nichia Hortisolis	Nichia Hortisolis
Color Rendering Index (CRI)	>90	>90
Total Harmonic Distortion	<15%	<15%
Operating Temperature	0 °C to 45 °C	0 °C to 45 °C
Surge Protection	1 kV	1 kV
Tube	T8 Tube / Batten Tube	T8 Tube / Batten Tube
Lens Material	Clear PC	Clear PC
Lamp Holder / Base Type	G13 / AC Connector	G13 / AC Connector
Length (max.)	600mm. / 1200mm.	600mm. / 1200mm.
Total Weight (g.)	151 g. / 257g.	151 g. / 257g.
PPF (PAR,400-700nm)	60 $\mu$ mol/s (36W)	64 $\mu$ mol/s (36W)
- RED (600-700nm)	52%	38%
- GREEN (500-600nm)	37%	40%
- BLUE (400-500nm)	11%	22%
Working voltage	100 - 250 Vac,50Hz.	100 - 250 Vac,50Hz.
Beam Angle	115°	115°
Power factor	>0.9	>0.9
IP Rating	IP 20 / IP 43	IP 20 / IP 43
Life Time	50,000 hrs.	50,000 hrs.
Warranty	2 Years	2 Years



Vegetables : Lettuce  
 Temperature : 25°  
 Condition : Noon 12 Hours / Night 12 Hours  
 Density of CO2 400 - 500ppm (Ave.450ppm)  
 Growing Period : 25 Days  
 PFD : 230  $\mu\text{mol}/(\text{m}^2\text{s})$

CCT	White Light Rsp0a 5000K	White Light Rsp0a 3000K
R/B* <sup>1</sup>	1.9	5.1
R/Fr* <sup>1</sup>	8.8	6.6
Representative Sampling	30	28
Over 60 Grams Saplings	80%	96%
Weighted Average	73.7g/Sapling	88.5g/Sapling
Electricity Consumption	27.6kWh	24.0kWh
Energy Usage	12.5W/g	9.7W/g

\*1 Kindly remind, the wavelength of R/B and R/Fr are different from the description from the Nichia leaflet (BP-CS16387)

\*2 Might have suitable R/B value, depends on the environment.

# Qualifications of LED Grow Light (Depend on CCT)

3000K : Fast growing and power saving

5000K : Fast growing and beautiful shaping



## Conclusion

Lettuce seedling tend to be fast growing at CCT 3000K. Because R/ B\*<sup>2</sup> is more higher and CCT 3000K have more efficiency. Especially Lettuce stalk have very fast growth. On the other hand, at CCT 5000K the Lettuce have better and faster growing with the beautiful shaping. By the way, to choose 3000K or 5000K is depending on yours requirement, for power saving or for fast growing with the beautiful shaping.

## Experimental Results.

White Light 5000K

White Light 3000K



At color temperature CCT 5000K the Lettuce have more beautiful shaping, compared with CCT 3000K



Lettuce stalk are sepertely



Lettuce stalk are more thicker in a group, not separate

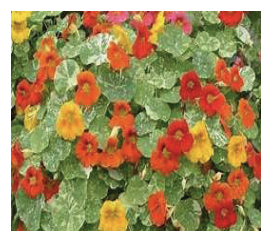
\*Reference from : 

# Flowers and Fruits

## Specification

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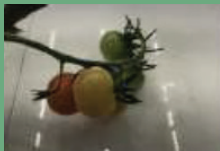
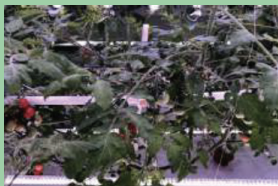



Spectrum	Red Rich White Rs060
Model	G02
Color Temperature (TC)	5200K
Power Consumption	10W G13 / 20W G13 / 36IP
LED Light Source	Nichia Hortisolis
Total Harmonic Distortion	<15%
Operating Temperature	0 °C to 45 °C
Surge Protection	1 kV
Tube	T8 Tube / Batten Tube
Lens Material	Clear PC
Lamp Holder / Base Type	G13 / AC Connector
Length (max.)	600mm. / 1200mm.
Total Weight (g.)	151 g. / 257g.
PPF (PAR,400-700nm)	57 $\mu$ mol/s (36W)
- RED (600-700nm)	62%
- GREEN (500-600nm)	20%
- BLUE (400-500nm)	18%
Working voltage	100 - 250 Vac,50Hz.
Beam Angle	115°
Power factor	>0.9
IP Rating	IP 20 / IP 43
Life Time	50,000 hrs.
Warranty	2 Years





# Qualifications of LED Fruit tree.



	Red Rich White Rs060 4500K	White Light Rsp0a 5000K
PFD $\mu\text{molm}/(\text{m}^2\text{s})$	212	223
Blue $\mu\text{molm}/(\text{m}^2\text{s})$	35	42
Red $\mu\text{molm}/(\text{m}^2\text{s})$	91	55
FR	39	10
R/B	2.6	2.3
R/FR	2.3	5.7
18 Days after plants all parts of the plant are fast growing in Red Rich White Rs060 4500K		
Color changing (After 52 days)		
First harvest (After 59 days) Red Rich White Rs060 4500K	 	 
Amount of tomatoes.	83	37
Weight.	884	391
Average.	10.7	10.6
Density of sugar.	7.9	6.8

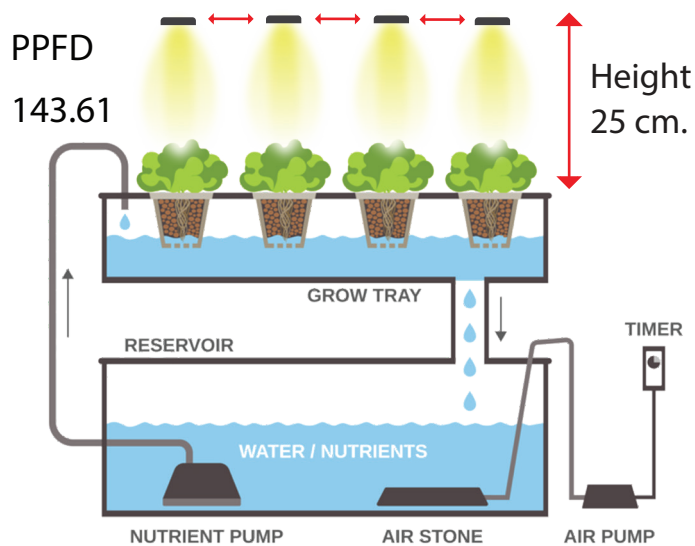
Reference Information  
from after 15 days  
of the first harvest.

\*Reference from : 

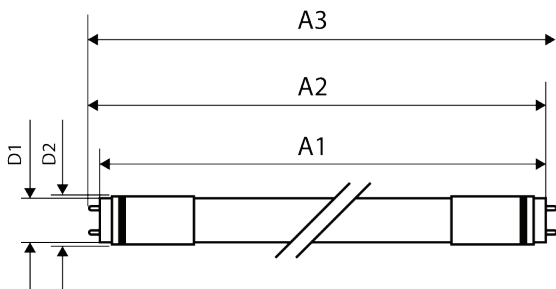
# Comparison

	White Light Rsp0a 3000K	White Light Rsp0a 5000K	Red Rich White Rs060 5200K
	Clear ทั่วใญ่	Clear ทั่วใญ่	Clear ทั่วใญ่
Power	20W	20W	20W
TC : K	2,949	4,994	4,406
Ratio_R:(%)	52	38	62
Ratio_G:(%)	37	40	20
Ratio_B:(%)	11	22	18
PPFD: $\mu\text{molm}/(\text{m}^2\text{s})$	89.115	94.24	86.495

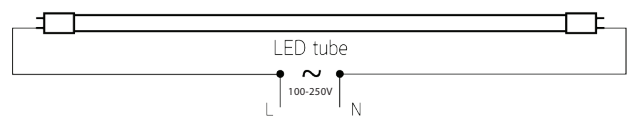
## Installation Guide



## Dimension

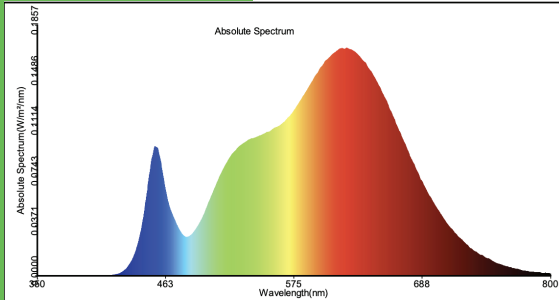


## Wiring



# LED TUBE T8 - CLEAR

## LED Full Spectrum Horticulture Light



### White Light Rsp0a 3000K

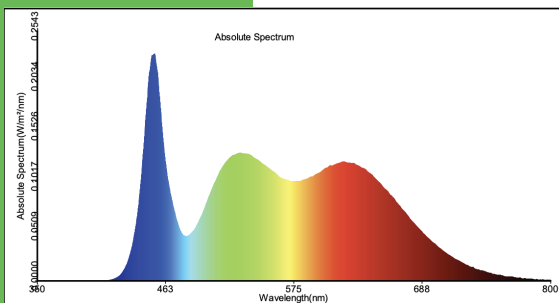
PPF (PAR,400-700nm)

- RED (600-700nm)
- GREEN (500-600nm)
- BLUE (400-500nm)



60  $\mu\text{mol/s}$  (36W)

52%  
37%  
11%



### White Light Rsp0a 5000K

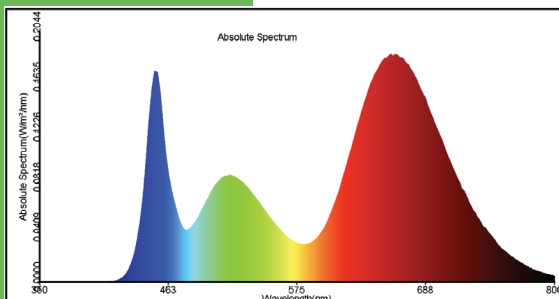
PPF (PAR,400-700nm)

- RED (600-700nm)
- GREEN (500-600nm)
- BLUE (400-500nm)



64  $\mu\text{mol/s}$  (36W)

38%  
40%  
22%



### Red Rich White Rs060 5200K

PPF (PAR,400-700nm)

- RED (600-700nm)
- GREEN (500-600nm)
- BLUE (400-500nm)



57  $\mu\text{mol/s}$  (36W)

62%  
20%  
18%