

T5&T8 Lighting Efficiency Compare

Case : We use steel structure T8 lighting fixture in a room and need 25 suites in all. Every suite contains 4 lamps of 20w. Now we use T5 lighting fixture and need 21 suites in all. We suppose that the lamps work 12 hours every day, work 300 days every year. The result is that 3,308.4 degrees of power could be saved every year by using T5 lighting fixture. The energy saving rate is 42%.

Item	T8, 20W lamp	T5, 14W lamp
Lamp rated power	20W	14W
Number of lamps per suite of lighting fixture	4	4
ballast	traditional	electronic
Luminous flux per lamp	1,050 lm	1,250 lm
Luminous flux of 4 lamps	4,200 lm	5,000 lm
Input power(power consumption of entire lighting fixture)	88W	61W
Number of lighting fixture	25	21
Total Luminous flux (Luminous flux of single suite of lighting fixture x number of lighting fixture)	105,000 lm	105,000 lm
Watts of power consumption (Input power x number of lighting fixture)	2,200W	1,281W
Average working time per day	12 hour	12 hour
Average power consumption per day (=watts x working-time ÷ 1000)	26.4kilowatt-hour	15.372kilowatt-hour
Average working days per year	300 days	300 days
Average power consumption per year	7,920 kilowatt-hour	4,611.6 kilowatt-hour
Power saved per year		3,308.4 kilowatt-hour
Power saving rate		42%