

Government Purchasing Specification for High Performance Four-Foot T8 Fluorescent Lighting Systems

High Performance T8 (HPT8) Systems, which combine high efficiency electronic ballasts and four-foot 32 Watt high-lumen T8 lamps in fluorescent fixtures, provide significant energy savings compared to old T12 or standard T8 fixtures. HPT8 Systems are available through normal distribution channels and from most fixture manufacturers. HPT8 Systems should be specified to maximize energy cost savings and lighting quality.

Definitions:

Ballast Factor – The ratio of lamp lumens produced when lamp(s) are operated by a given ballast to the lamp lumens produced when the lamp(s) are operated on a reference ballast.

Ballast Efficacy Factor – The ratio of ballast factor (BF) to the ballast supply power times 100.

High Lumen Lamps – four-foot 32 Watt T8 lamps with ≥ 3100 initial lumens.

Requirements:

The offeror (bidder, contractor) shall self-certify or provide proof that each lighting system proposed (fixture plus ballast and lamps) meets or exceeds the following technical requirements.

1. All fixtures using four-foot T8 fluorescent lamps shall be shipped with ballasts that comply with the following specifications.

Ballast Efficacy Factor (BEF)		
BEF = [Ballast Factor (BF) x 100] / Ballast Input Watts		
Number of Lamps	Instant-Start Ballast	Programmed Rapid-Start Ballast
	Low Ballast Factor ≤ 0.85	
1	≥ 3.08	≥ 2.84
2	≥ 1.60	≥ 1.48
3	≥ 1.04	≥ 0.97
4	≥ 0.79	≥ 0.76

2. All lamps shipped with fixtures or purchased for use in four-foot T8 fluorescent fixtures shall comply with the following specifications.

Performance Characteristics for Lamps	
Mean System Efficacy	≥ 90 Mean Lumens per Watt for Instant Start Ballasts ≥ 88 Mean Lumens per Watt for Programmed Rapid Start Ballasts
Color Rendering Index (CRI)	≥ 81
Minimum Initial Lamp Lumens	≥ 3100 lumens
Lamp Life	$\geq 24,000$ hour average rated life at three hours per start
Lumen Maintenance or Minimum Mean Lumens	$\geq 94\%$ -or ≥ 2900 Mean Lumens