

SDERC Lighting Display

Office Lighting: Lithonia RT5

Location: SDREO ERC Classroom

Technology Description: In certain ways, the RT5 may be the best direct troffer available. The RT5 is intended to replace 2x4 18 cell parabolic and other parabolic troffers. Parabolic troffers create dark ceilings & upper walls, do not provide very many vertical foot-candles, and overhead glare can be annoying. The RT5 is much better on all three counts. The RT5 also has a significantly higher fixture efficiency and costs less than most basket troffers. Light levels of 40 foot-candles and up are achieved with 0.725 W/sqft on an 8ft by 10ft center. Fixture density can be reduced to 10ft by 10ft centers achieving 40fc with 0.58 W/sqft.

The high performance fixture design operates the T5 lamps at near the optimal temperature (95° F) in the lamp compartment. Lithonia has exclusive rights to the Sylvania Premier F28T5 lamps and ballasts until mid 2006. These lamps have 3050 lumens, compared to 2900 lumens for standard T5s. The ballasts are considerably more energy efficient than standard T5 ballasts, are available in 0.95 and 1.15 BF, and can operate with bi-level switching. Two of these high performance lamps with a 0.95 BF ballast can save 6W over a typical T5 system. This Sylvania T5 system is as efficacious as the best T8 system.

The Lithonia RT5 with Sylvania T5 lamps and ballast provides up to 33% energy savings over a 2x4 18 cell parabolic troffer with three basic grade 32W F32T8s and generic standard (.87 BF) ballasting. However, the system consumes about the same wattage as three high lumen 32W F32T8s with a 0.6 BF extra efficient ballast, three 25W energy saving F32T8s with a 0.77 BF extra efficient ballast, or two high lumen 32W F32T8s with a 0.87 BF extra efficient ballast and an ALP RDI type kit for parabolic troffers.

Applications: Office spaces, classrooms, hospitals, retail spaces. The narrow 3 1/8" depth allows this fixture to be installed in shallow ceiling cavities.

Energy Savings: Each RT5 fixture with two high lumen F28T5 lamps and high efficiency .95 BF ballast will save close to \$13 per year compared to a 2x4 18 cell parabolic troffer that has 3 32W F32T8s and generic standard (.87) BF ballasting (assuming 3000 hrs/yr and \$0.15/KWH). But as mentioned earlier, there would be no substantial savings compared to high performance T8 systems.

Costs: The RT5 costs 20-25% more per unit than a standard parabolic.

Donated Product: SDREO would like to formally thank Ed Musbach of the Lighting Association of San Diego for donating the fixtures. He can be reached at (858) 505-1055 and emusbach.sdl@lighting.net. More information can be found at www.lithonia.com.

Discussion: Although the RT5 may be the best troffer, a troffer is still a troffer. For many applications suspended indirect or direct/indirects are often a better solution. The

RT5 and other troffers still make the ceiling look like a checkerboard, glare can be a problem, and often more wattage is used than with suspended fixtures. Other lamp and ballast manufacturers are considering or developing high performance T5 lamps and ballasts, similar to what Sylvania has. It is important for customers to be aware of what are fair comparisons and what are not in manufacturing marketing literature. Is it fair to compare the best T5 system with a generic basic grade T8 system?