

LIGHTING LAYOUT GUIDE SERIES

OFFICE GUIDE 3

ROOM CHARACTERISTICS

Length: 60'

Width: 25'

Height: 9'

Reflectivity:

Ceiling = 80%

Walls = 50%

Floor = 20%

PRODUCT SPECIFICATIONS



Dimensions: 24" x 48"

Optics: Refractor Lens

Lamps: (2) F32T8 HP

CCT: 3500K

CRI: 84

Lumens per Lamp: 3100

Ballast Factor: 0.88*

Lamp Lumen Depreciation: 0.95

Efficiency: 91%

Watts: 54.5

* If the light levels are higher than required, consider a lower ballast factor (BF) for greater savings.

OPEN OFFICE

T8 FLUORESCENT HIGH PERFORMANCE RETROFIT KIT



THE OPPORTUNITY

In a typical space with a 9' high, lay-in type ceiling, it is possible to retrofit existing luminaires with a kit providing high quality lighting that illuminates both horizontal and vertical surfaces, while greatly reducing energy consumption. Unlike the luminaires they replace, this solution directs light in a manner that evenly illuminates the ceiling, walls and tasks—producing a brighter environment for occupants. Traditional, flat-lensed troffers or parabolic louvered fixtures cannot achieve this type of evenly distributed lighting.

THE SOLUTION

Install 2' x 4' high performance retrofit kits that replace existing lamps and ballasts (typically 3 or 4 lamps) with a high efficiency electronic ballast and (2) T8 32w high performance lamps. This combination should meet the illuminance target of 35 average maintained footcandles. This solution will not eliminate all glare on traditional computer screens, but works especially well with flat screen monitors.

DESIGN CONSIDERATIONS

In these examples, the highest light levels are possible only if the luminaires are placed over desks and work areas. Partitions can have a detrimental impact on light levels. Their vertical surfaces absorb and block light creating shadows if installed off-center of the luminaires. However, these high performance lenses minimize this effect. Task lights may still be needed to provide additional illumination, and eliminate shadows in high task areas.



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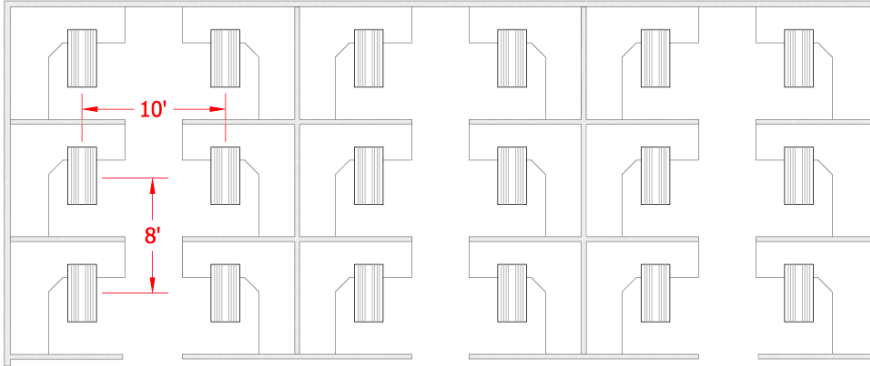
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LAYOUT OPTIONS

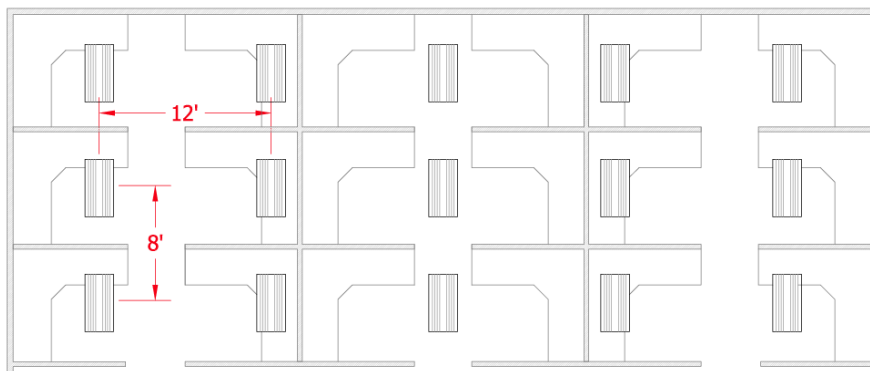
Open Office (2) T8 Fluorescent High Performance Retrofit Kit | 8' x 10' Spacing



INSTALLATION SPECS

Number of Luminaires: 18
Luminaire Spacing: 8' x 10'
Mounting Condition: Recessed
Average Illumination:
 ~36 fc (30" AFF)
Watts/sq. ft.: ~0.65

Open Office (2) T8 Fluorescent High Performance Retrofit Kit | 8' x 12' Spacing



INSTALLATION SPECS

Number of Luminaires: 15
Luminaire Spacing: 8' x 12'
Mounting Condition: Recessed
Average Illumination:
 ~30 fc (30" AFF)
Watts/sq. ft.: ~0.54

IES Recommended Footcandles (fc):
 30 - 50 fc (30" AFF)

CONTROLS STRATEGY

Though not required in an open office, occupancy controls can save energy, particularly in non-daylight zones. It's usually best to not turn fixtures all the way off during business hours. Luminaire level lighting controls can be a great way to cope with complex occupancy and daylighting patterns in an open office.

ENERGY SAVING STRATEGIES

STRATEGY	BENEFIT	TECH NOTE
Daylight dimming ballasts in primary daylight zone	Can balance light levels within the space, while using only enough wattage to maintain target light levels	Light levels maintained from daylight
Lower ballast factor	Can reduce wattage considerably	Be sure target light levels are not compromised

ENERGY CODE INFORMATION

JURISDICTION	CODE	LIGHTING POWER ALLOWANCE
Seattle	2012 Seattle Energy Code	0.90 w/sq. ft. (0.98 space x space)
Washington	2012 WSEC	0.90 w/sq. ft. (0.98 space x space)
Oregon	2014 OEESC	0.91 w/sq. ft. (0.93 space x space)
Idaho	2012 IECC	0.90 w/sq. ft. (1.0 space x space)
Montana	2012 IECC	0.90 w/sq. ft. (1.0 space x space)