

LIGHTING LAYOUT GUIDE SERIES

OFFICE GUIDE 4

ROOM CHARACTERISTICS

Length: 60'

Width: 25'

Height: 9'

Reflectivity:

Ceiling = 80%

Walls = 50%

Floor = 20%

PRODUCT SPECIFICATIONS



Dimensions: 9" x 48"

Optics: Parabolic Louvers

Lamps: F32T8 HP

CCT: 3500K

CRI: 84

Lumens per Lamp: 3100

Ballast Factor: 0.88 for (2) Lamp
Luminaires and 0.77 for (3) Lamp
Luminaires*

Lamp Lumen Depreciation: 0.95

Efficiency: 80%-90%

Watts: 2-Lamp ~54.5, 3-Lamp
~72.5

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

OPEN OFFICE

T8 FLUORESCENT PENDANT DIRECT/INDIRECT



THE OPPORTUNITY

In a typical space with a 9' high ceiling, it is possible to use a direct/indirect method providing high quality lighting that illuminates the work area to recognized best practice lighting standards, and meets or beats the local energy codes. Pendant hung, direct/indirect luminaires project light into the space, evenly illuminating the ceiling, walls, and tasks—providing a broad, uniform, and reasonably shadowless distribution pattern for the occupants.

THE SOLUTION

Install pendant hung, direct/indirect luminaires equipped with high efficiency electronic ballasts and T8 32w high performance lamps, either individually, or in rows. These combinations should meet the target 30+ average maintained footcandles greatly reducing, if not eliminating, glare on traditional computer screens. Look for luminaires that have a distribution of 70% indirect / 30% direct.

DESIGN CONSIDERATIONS

In these examples, uniform light levels are possible by utilizing the reflective property of the ceiling and employing a 12"-18" pendant length on the luminaire. A highly reflective ceiling will yield even better results. This could also be used with similar success when 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 luminaire. However, this is greatly minimized with this lighting system. Task lights may still be needed to provide additional illumination where critical tasks are required.



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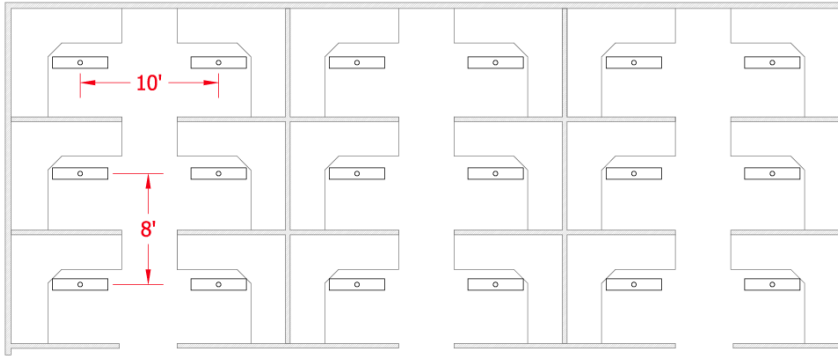
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LAYOUT OPTIONS

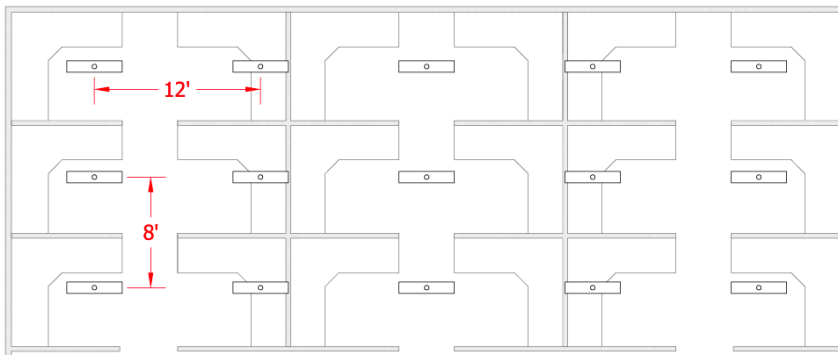
Open Office (2) T8 Fluorescent Pendant Direct/Indirect | 12' Rows on 8' x 10' Spacing



INSTALLATION SPECS

Number of Luminaires:
18 w/ (2) Lamps per Luminaire
Luminaire Spacing: 8'x10'
Mounting Condition: Pendant
Average Illumination:
~38 fc (30" AFF)
Watts/sq. ft.: ~0.73

Open Office (3) HP Fluorescent Pendant Direct/Indirect | 8' x 12' Spacing



INSTALLATION SPECS

Number of Luminaires:
15 w/ (3) Lamps per Luminaire
Luminaire Spacing: 8'x12'
Mounting Condition: Pendant
Average Illumination:
~46 fc (30" AFF)
Watts/sq. ft.: ~0.88

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

CONTROLS STRATEGY

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 (2-LAMP FIXTURE ONLY)

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 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. (0.10 space x space)
Montana	2012 IECC	0.90 w/sq. ft. (0.10 space x space)