LIGHTING LAYOUT GUIDE SERIES

SMALL RETAIL GUIDE 1

SMALL RETAIL

LED LENSED – RECESSED

ROOM CHARACTERISTICS

Length: 60'
Width: 40'
Height: 10'
Reflectivity:

Ceiling	= 80%
Walls	= 50%
Floor	= 20%

PRODUCT SPECIFICATIONS

Dimensions: 24 x 48"
Optics: Diffuse Acrylic Lens
LIght Source: LED
CCT: 3500K
CRI: 85
Lumens: 4262 Delivered
Depreciation: 0.70 @ 50,000 hrs.
Rated Life: 50,000 hrs.
Watts: 40.3

TIP

For a strong visual effect on vertical displays, the IES recommends using additional accent lighting to achieve contrast ratios from 3 to 10 times greater than the adjacent level.

THE OPPORTUNITY

In this typical small retail space with a 10' high ceiling, it is possible to provide high quality ambient lighting that illuminates the general merchandise displays and horizontal counters to recognized standards, and meets or beats local energy codes.

THE SOLUTION

Install 2' x 4' recessed mounted lensed LED luminaires, on 8' x 8' spacing. This layout option meets the target ambient illumination level for general merchandise of ~35 to 50 footcandles (fc) on the counter top level. This solution is a recommended practice for small retail spaces.

DESIGN CONSIDERATIONS

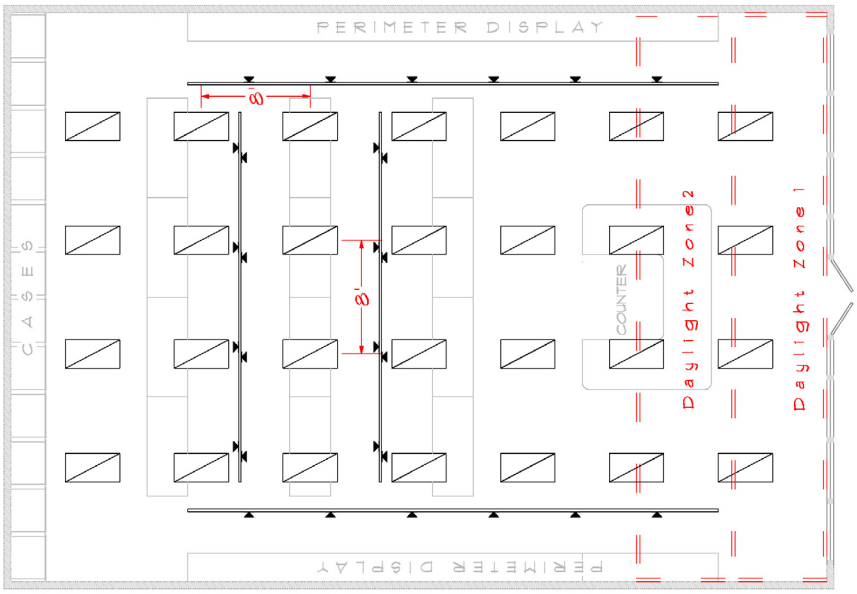
Display window lighting fixtures installed within 2' of the window are typically exempt from the energy code, provided the display window is separated from the retail space by a permanent wall, or by 3/4 height partitions. To draw attention to feature displays, add track with PAR38 LED spotlights for adjustable accent lighting.

lighting design lab
www.lightingdesignlab.com

NORTHWEST LIGHTING NETWORK
www.nwlightingnetwork.com

LAYOUT OPTIONS

Small Retail LED Lensed – Recessed



Plan View of Daylight Zone

INSTALLATION SPECS

Number of Luminaires: 28 Luminaire
Spacing: 8' x 8'
Mounting Condition: Recessed
Mounting Height: 10'
Average Illumination: ~41 fc (30" AFF)
Watts/sq. ft.: ~0.47

IES Recommended Footcandles (fc):
35-50 fc (30" AFF)

CONTROLS STRATEGY

Most energy codes now require lights in the daylight zone be controlled separately from those in the non-daylight zone. This offers the opportunity to dim or switch off lights when daylight is abundant. If the accent lighting in the daylight zone is controlled separately from the ambient lighting, it can be left on even when the general lighting is off. This saves energy while maintaining visual interest. Some jurisdictions offer a higher Lighting Power Allowance when accent lighting is controlled separately from ambient lighting. Display case lighting must be controlled separately from accent or ambient lighting.

ENERGY SAVING STRATEGIES

STRATEGY	WATTS/LUMINAIRE	LIGHT LEVELS
Daylight dimming ballasts in primary daylight zone	Can balance light levels with in the space, while using only enough wattage to maintain target light levels	Light levels maintained from daylight

ENERGY CODE INFORMATION

JURISDICTION	CODE	LIGHTING POWER ALLOWANCE
Seattle	2012 Seattle Energy Code	1.33 w/sq. ft. (1.68 space x space)*
Washington	2012 WSEC	1.33 w/sq. ft. (1.68 space x space)*
Oregon	2014 OEESC	1.32 w/sq. ft. (1.50 space x space)*
Idaho	2012 IECC	1.40 w/sq. ft. (1.60 space x space)*
Montana	2012 IECC	1.40 w/sq. ft. (1.60 space x space)*

*Additional power allowances are available depending on the merchandise. Refer to the code text for specifics.