

LIGHTING LAYOUT GUIDE SERIES

PARKING GARAGE GUIDE 1

ROOM CHARACTERISTICS

Length: 225'

Width: 116'

Height: 11' Hard Ceiling

Reflectivity:

Ceiling = 40%

Walls = 20%

Floor = 20%

PRODUCT SPECIFICATIONS



Dimensions: ~13" x 13" x 4 1/2"

Optics: Type V

Light Source: High Output LED

CCT: 5000K

CRI: 77

Lumens: 4945 Delivered

Depreciation: 0.7 @ 76,000 hrs.

Rated Life: 76,000 hrs.

Watts: 66

PARKING GARAGE

LED RETROFIT



THE OPPORTUNITY

In a parking garage, it is possible to have high quality lighting that illuminates the horizontal driving surface and provide appropriate vertical illumination to recognized standards, while meeting or beating local energy codes. LED systems offer the option of coming ON at either 50% brightness or to full brightness, unlike the HID systems they tend to replace. This allows for bi-level and full occupancy control.

THE SOLUTION

Install low-profile LED luminaires specifically designed for parking garages. This option lowers maintenance costs and lasts longer than HID or fluorescent systems. This solution performs better than fluorescent options in unconditioned spaces, as LEDs are less sensitive to temperature fluctuations.

DESIGN CONSIDERATIONS

As in many similar applications, the concern is not only for appropriate horizontal and vertical illumination, but for energy management, system maintenance, and glare control at the fixture level. LED parking garage fixtures are designed specifically to control surface glare through optical shielding, while consuming fewer watts than a 2-lamp fluorescent fixture and lasting an estimated 70,000 to 80,000 hours.



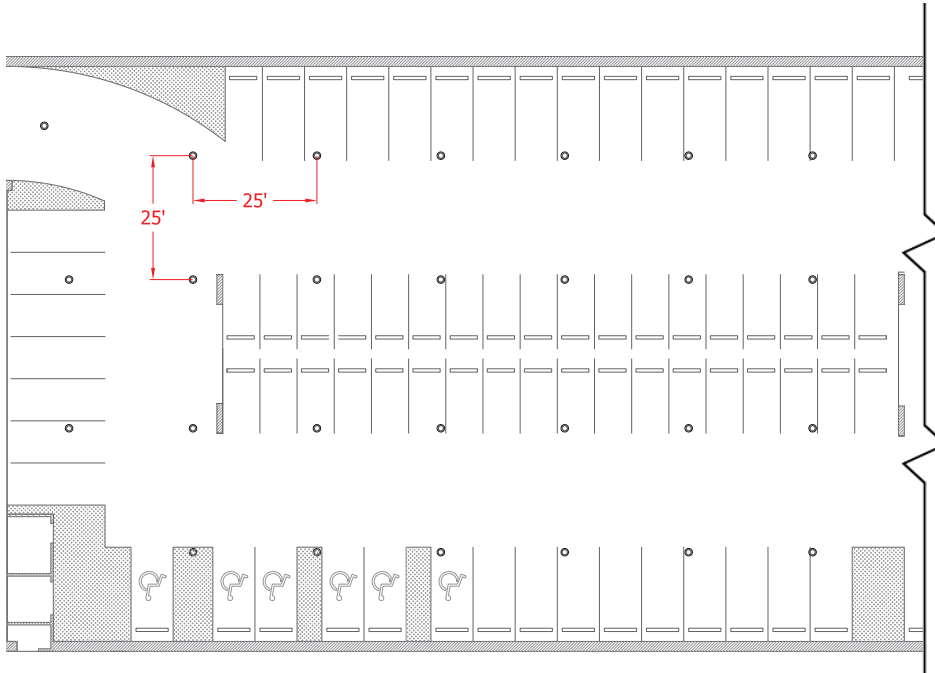
www.lightingdesignlab.com

NORTHWEST
LIGHTING NETWORK

www.nwlightingnetwork.com

LAYOUT OPTIONS

Parking Garage LED Retrofit | 25' x 25' Spacing



INSTALLATION SPECS

Number of Luminaires: 27
Luminaire Spacing: 25' x 25'
Mounting Condition: Surface
Mounting Height: 10'6"
Average Illumination:
 ~5.04 fc horizontal
 ~3.34 fc vertical
Watts/sq. ft.: ~0.10 (0.092)

IES Recommended

Footcandles (fc):
 5 fc Average
 1 fc Minimum
 10:1 Max/Min Uniformity Ratio

CONTROLS STRATEGY

Consider installing occupancy control sensing devices to automatically reduce lighting power in a controlled zone by at least 50% within 30 minutes of all occupants leaving that zone. One cost-effective solution is specifying luminaires with integral occupancy sensors, many of which can be programmed for bi-level control. This will minimize installation labor costs.

Some jurisdictions require daylighting controls in parking garages. Please check code requirements specific to your area. Many controls manufacturers now offer occupancy sensors with integrated photosensors for daylighting, allowing for two control strategies from a single control unit.

ENERGY SAVING STRATEGIES

STRATEGY	BENEFIT	TECH NOTE
Daylight controls on perimeter to turn OFF fixtures	Many fixtures can remain OFF during daytime hours	Light levels maintained from daylight

CODE INFORMATION

JURISDICTION	CODE	LIGHTING POWER ALLOWANCE
Seattle	2012 Seattle Energy Code	0.20 w/sq. ft. (0.19 space x space)
Washington	2012 WSEC	0.20 w/sq. ft. (0.19 space x space)
Oregon	2014 OEESC	0.25 w/sq. ft. (0 space x space)
Idaho	2012 IECC	0.30 w/sq. ft. (0.20 space x space)
Montana	2012 IECC	0.30 w/sq. ft. (0.20 space x space)