

UNDERCOVER CAR PARKS

AS/NZS 1680.2.1:2008



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Locally made Olevon Plus installed at a Westfield car park

With hardly any daylight, but a lot of dust and dirt, undercover car parks are high stake locations where reliable and resilient lighting solutions are incredibly important.

When entering an undercover car park, a driver's eye must adjust quickly, transitioning from daylight to the darker car park environment. This shift can cause visual discomfort and impaired vision, making it difficult to react to objects or pedestrians. Car park entrances are frequently positioned in high pedestrian areas, and even a momentary loss of visibility can be incredibly dangerous.

Due to this safety issue the Australian Standards, AS 1680, specifies 800 lux for the first 15 meters of a car park entrance during the day and 160 lux at night, followed by 160 lux for the next 4 meters at all times. This helps transition the lighting level upon entry and reduces the effects of the changes in light levels.

LIGHTING CONSIDERATIONS

SAFETY & SECURITY

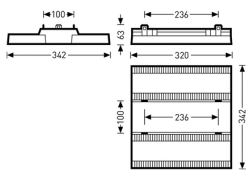
In a car park, lighting plays a critical part in generating the right ambience and emotions of safety. Once inside and safely parked, users must be able to quickly recognise emergency and navigational information. To improve the recognition of people's faces and the sensation of security, high vertical illuminance should be considered.

EFFICIENT LIGHTING

To reduce operating costs when illuminating an enclosed car park without the ingress of daylight it is important to use luminaires with high energy efficiency, like our locally made Aragon. The high 60,000 hour service life of the LED luminaires and the especially large maintenance intervals reduce overall luminaire operating costs over the lifespan of the project.



RECOMMENDED PRODUCTS



L1



MIRONA FIT

TB LED 13000-840-ET



LUMINAIRE CONNECTED WATTAGE	78W
LUMINAIRE LUMINOUS FLUX	13100lm
LUMINOUS EFFICIENCY	167lm/W
SERVICE LIFE (@ 70,000 HRS)	L80 @ 50°C
CCT	4000K
CRI	≥ 80
IP RATING	IP65
IK RATING	IK08
WEIGHT	3.8kg



L2

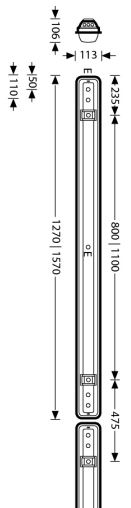


ARAGON TWIN

1200-T-P-7100-840-ET



LUMINAIRE CONNECTED WATTAGE	51.4W
LUMINAIRE LUMINOUS FLUX	7100lm
LUMINOUS EFFICIENCY	138lm/W
SERVICE LIFE (@ 60,000 HRS)	L90 B10
CCT	4000K
CRI	≥ 80
IP RATING	IP66
IK RATING	IK08



L3



ARAGON

1200-S-P-3056-840-ET

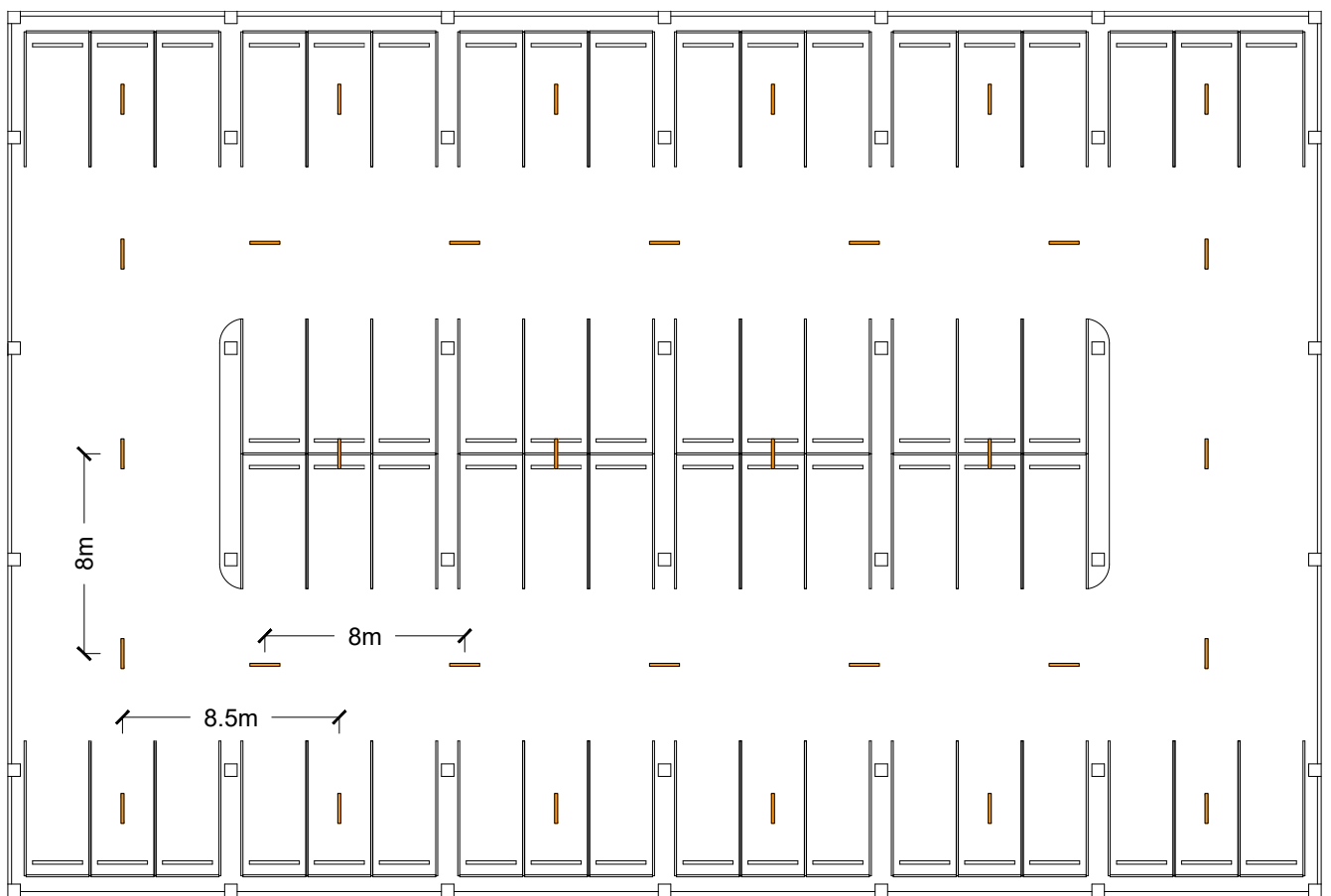


LUMINAIRE CONNECTED WATTAGE	21.6W
LUMINAIRE LUMINOUS FLUX	3056lm
LUMINOUS EFFICIENCY	141.5lm/W
SERVICE LIFE (@ 60,000 HRS)	L90 B10
CCT	4000K
CRI	≥ 80
IP RATING	IP66
IK RATING	IK08

TYPICAL DESIGN

PARKING AISLES / MODULES /
RAMPS / PWD
SWITCHING

SWITCHING



TYPICAL DESIGN PARAMETERS




REQUIRED AVERAGE MAINTAINED ILLUMINANCE	≥ 40lx
REQUIRED ILLUMINANCE UNIFORMITY	≥ 0.3
MAXIMUM ILLUMINATION POWER DENSITY	≤ 2W/m ²
CEILING HEIGHT	2.5m
SURFACE REFLECTANCE'S	C/W/F = 50/50/30
LIGHT LOSS FACTOR	0.8
LUMINAIRE USED	L3

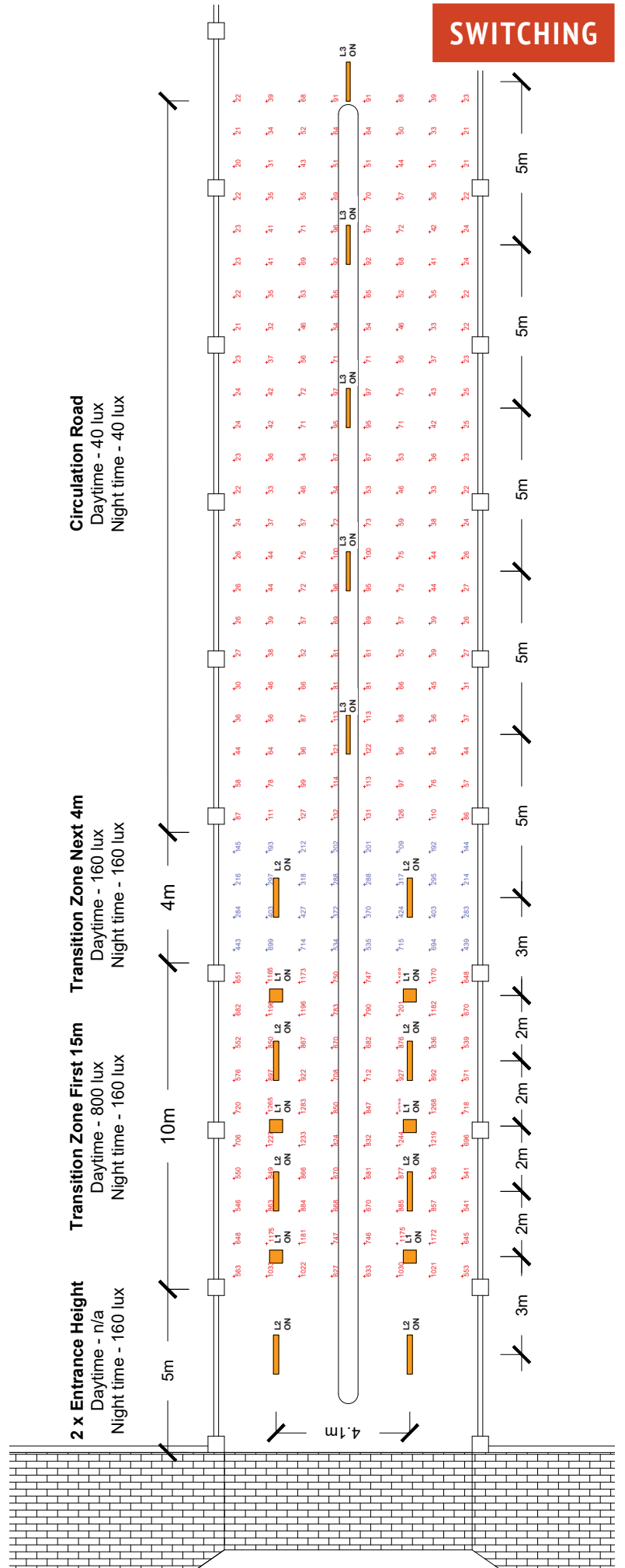
EMERGENCY	
PRODUCT	Aragon-1200-S-P-3056-840-ETD-EMTNi
	Based on 0.2 lx & 2.7m Mounting Height
C0 = D80	14.8m Maximum Spacing
C90 = D32	14.8m Maximum Spacing

TYPICAL DESIGN

ENTRANCE | DAY
SWITCHING

TYPICAL DESIGN PARAMETERS




REQUIRED AVERAGE MAINTAINED HORIZONTAL ILLUMINANCE	
AISLES, RAMPS & CIRCULATION ROADS	≥ 40lx
PARKING MODULES	≥ 40lx
PARKING MODULES FOR PWD	≥ 40lx
DAYTIME TRANSITION ZONES FIRST 15M	≥ 800lx
DAYTIME TRANSITION ZONES NEXT 4M	≥ 160lx
REQUIRED ILLUMINANCE UNIFORMITY	≥ 0.3
MAXIMUM ILLUMINATION POWER DENSITY	Generally ≤ 2W/m ²
MAXIMUM ILLUMINATION POWER DENSITY	First 15m Entry Zone ≤ 11.5W/m ²
CEILING HEIGHT	2.5m
SURFACE REFLECTANCE'S	C/W/F = 50/50/30
LIGHT LOSS FACTOR	0.8
LUMINAIRES USED	L1  L2  L3 

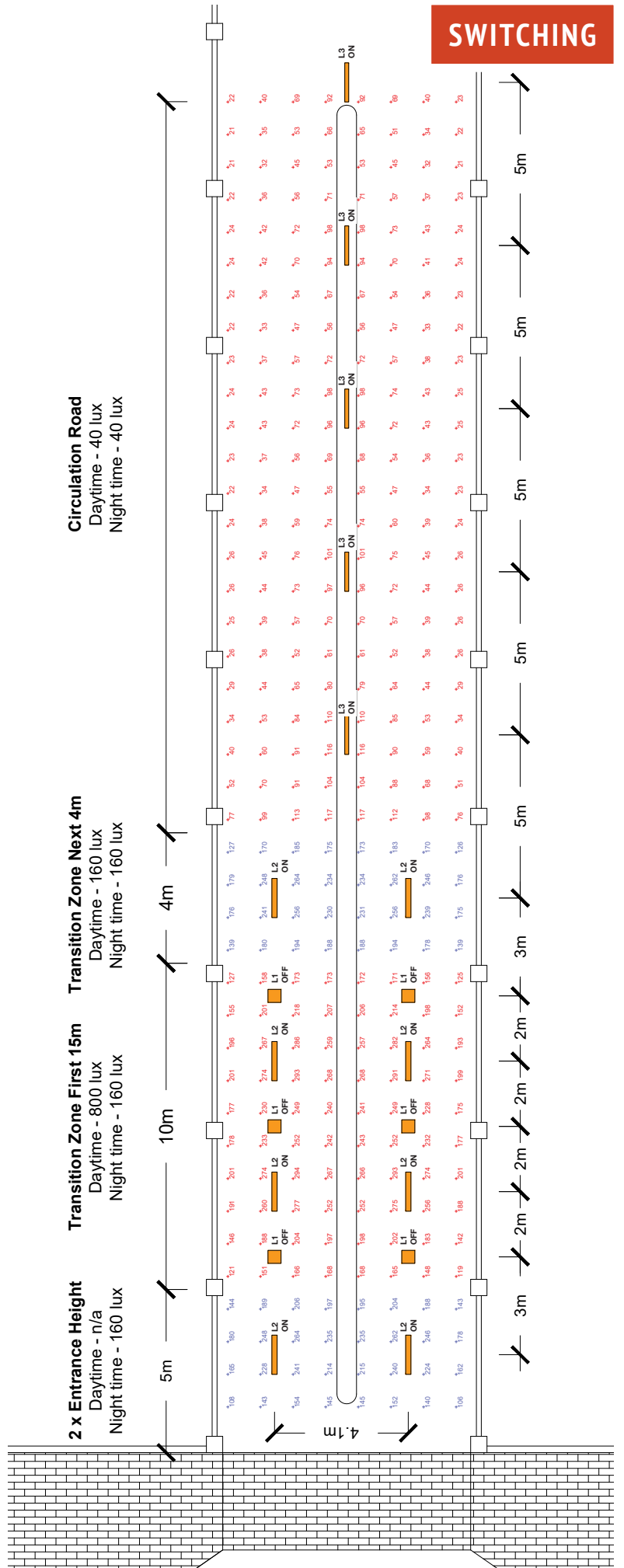


TYPICAL DESIGN

ENTRANCE | NIGHT SWITCHING

TYPICAL DESIGN PARAMETERS

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LUMINAIRES USED	L1  L2  L3 



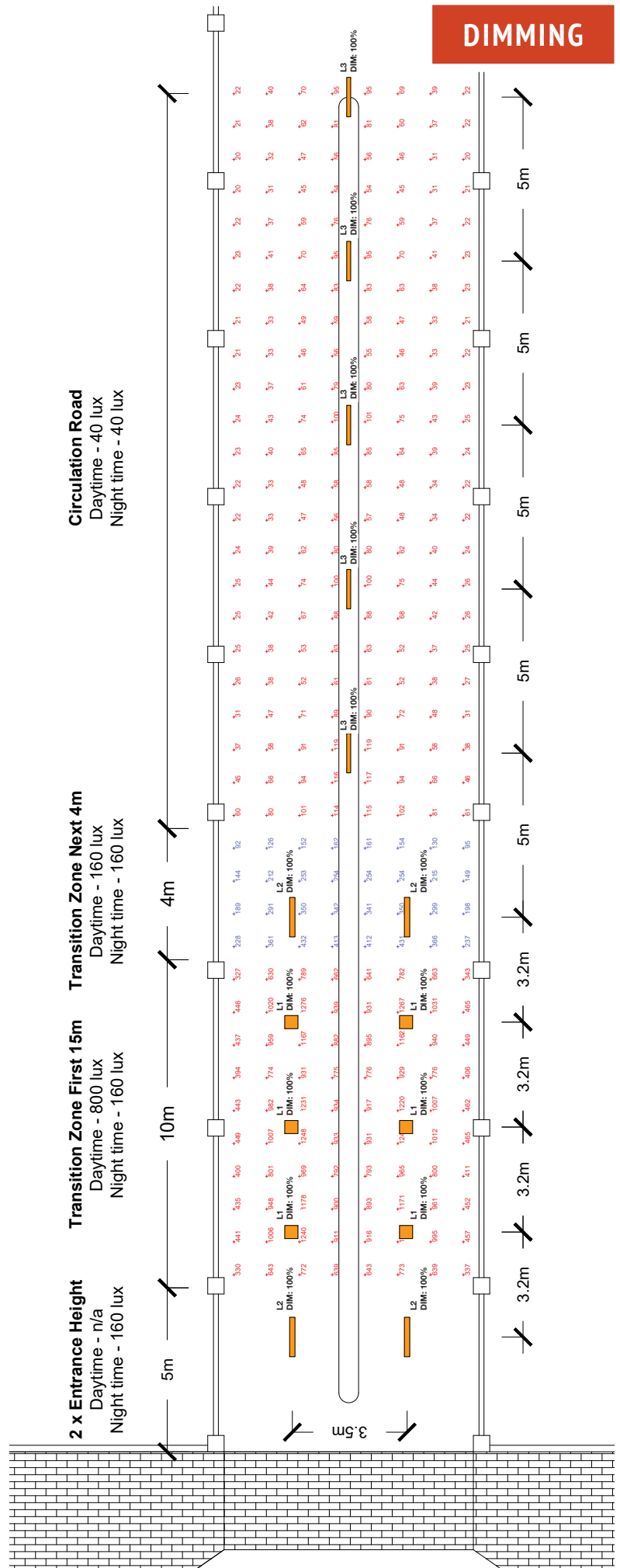
TYPICAL DESIGN

ENTRANCE | DAY

DIMMING

TYPICAL DESIGN PARAMETERS

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LIGHT LOSS FACTOR	0.8
LUMINAIRES USED	L1 ■ L2 ■ L3 ■





TYPICAL DESIGN

ENTRANCE | NIGHT

DIMMING

TYPICAL DESIGN PARAMETERS

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