

# Lighting Design Austria

## Samples of the Lighting Design Process

Lighting Design Austria e.U.  
Marienstrasse 23, 3032 Eichgraben, Austria

Tel / Fax: +43 2773 435 34

Mobile: +43 664 16 00 140

E-mail: [office@LDA.at](mailto:office@LDA.at)

Web: [www.LDA.at](http://www.LDA.at)

## Lighting Design Austria

### Introduction

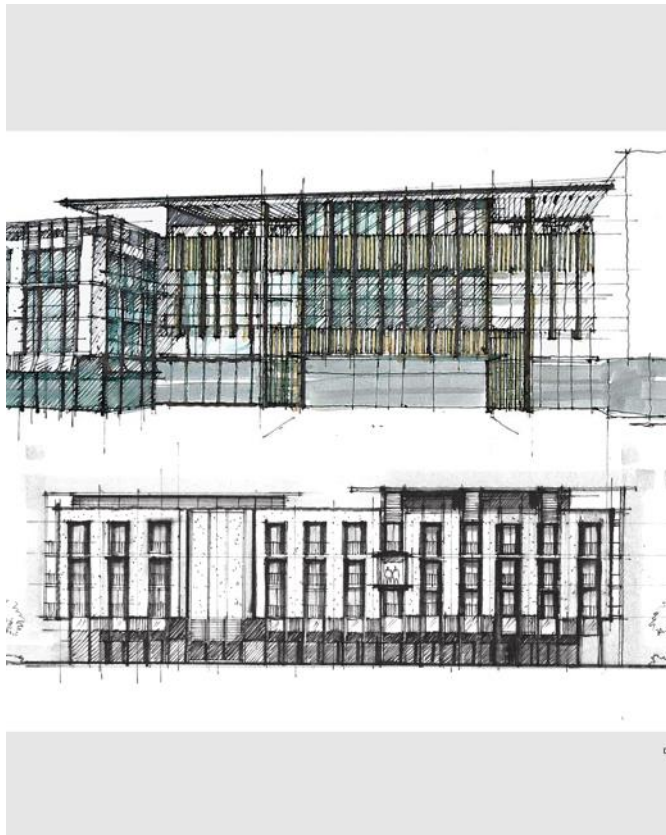
The creative team of "Lighting Design Austria" (LDA) has more than 30 years international experience **and over 14 years in the Middle East** as a leading independent engineering office in the area of natural and artificial lighting design.

#### Our design portfolio includes:

- Daylight
- Artificial light
- Outdoor Lighting - Urban-lighting
- Facade lighting
- Stage Lighting
- Landscape lighting
- Effect Lighting - Intelligent lighting systems
- Electrical-, Building- and Energy Management
- Cost Reductions - Value Engineering
- Energy Optimizations
- Green Technology Audits (Cost-, Benefit-, Environment-calculations)


## LDA Lighting Design Process

Input from client: Project concepts, sketches, drawings, visualizations, photos



# LDA Lighting Design Process

## Project Analysis: Client brief, documentation on project demands, background, scale, context



**Purpose/Program:**  
Highly important neighbourhood spaces. Family Parks are typically small, nuclear areas designed for both active and passive recreation. The Parks are located within the residential areas to provide the local neighbourhoods with convenient park amenities. Family Parks serve everyday recreational needs of the surrounding residential community, are key focal points of communities, and provide civic identity for the various neighbourhoods. The Family Parks become meeting places and activity centres for local children. With dedicated open space areas within the park improvement, Family Parks may handle local events and family activities such as outdoor picnics and barbecues, weddings, birthday parties, and sundry family and neighbourhood celebrations. All Family Parks include shade-covered playground equipment and play areas designed for a wide range of ages and abilities. The Parks provide well shaded seating for relaxation and parental monitoring of playful children. Often the play equipment may become a central focal element of identity for the surrounding neighbourhood. Large canopy trees typically line the park main circulation routes and play areas.

**Access**  
Primary entrances into Family Parks are typically gained from all surrounding edges of the park environment. Public Art may be incorporated in the Family Park, as well. Linked to a minimum of two adjacent streets, Family Park areas are well monitored and maintained by direct visibility from the street corridors. Vehicular access into the parks is limited to small vehicles.

**Project Limits**  
The adjacent Mosque plot is not part of the landscape works but indicative treatments are shown in areas related to but beyond the boundary, such as the mosque court.

Size (M <sup>2</sup> )	5,036
Hardscape (M <sup>2</sup> )	2,014
Loose Material (M <sup>3</sup> )	0
Softscape (M <sup>3</sup> )	3,021
Trees (No.)	81
Palms (No.)	12
Shrubs (M <sup>3</sup> )	1,208
Groundcover (m <sup>2</sup> )	1,208
Lawn (M <sup>2</sup> )	604
Irrigation (L/day)	13,208
Aggregate (L/M <sup>3</sup> /day)	2.6

**Program Summary**

- Passive spaces
- Active spaces
- Areas for rest and respite
- Children's play
- Meeting place

**Infrastructure**

- Toddler playground
- Junior playground
- Informal gathering area
- Shaded seating
- Mosque integration plaza
- Lawn
- Landscape lighting
- Signage

**Hardscape & Softscape Breakdown**

Hardscape & Softscape: 60% Hardscape, 40% Softscape

Softscape Breakdown: 20% Groundcover, 40% Lawn, 40% Shrub

**Minimum Shading Requirements**

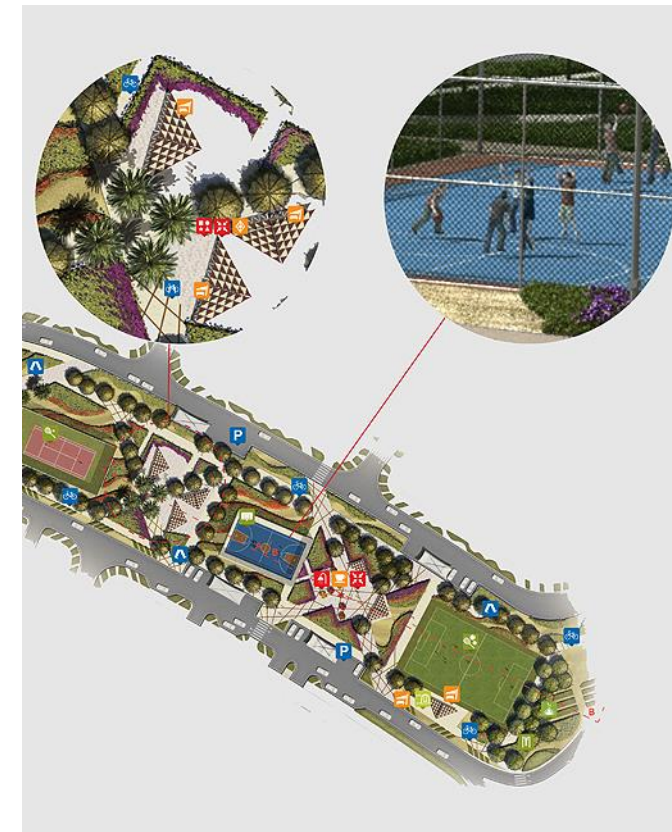
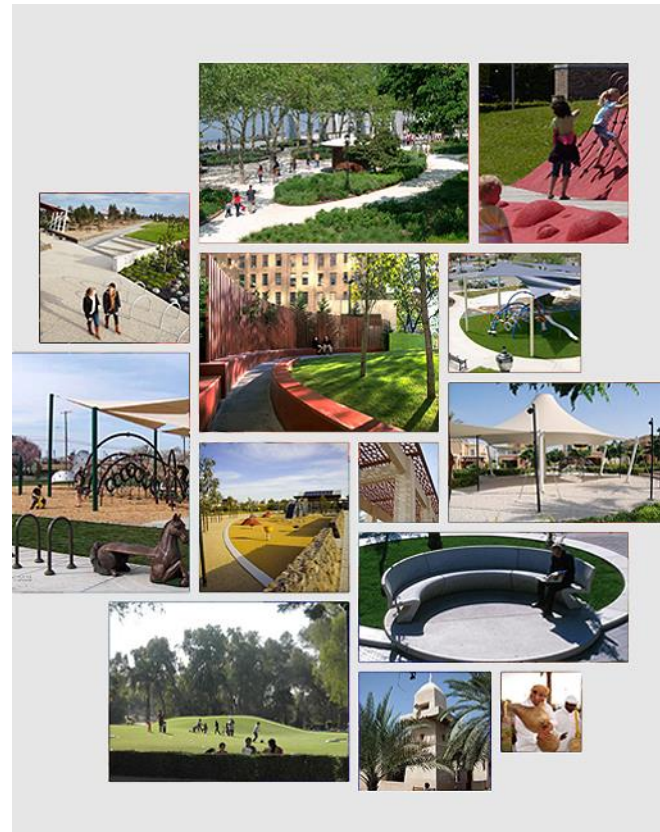
Primary path: 80%  
Secondary path: 60%

Play structures: 100%  
Informal play: 40%

Gathering areas: 100%  
Informal gathering: 40%

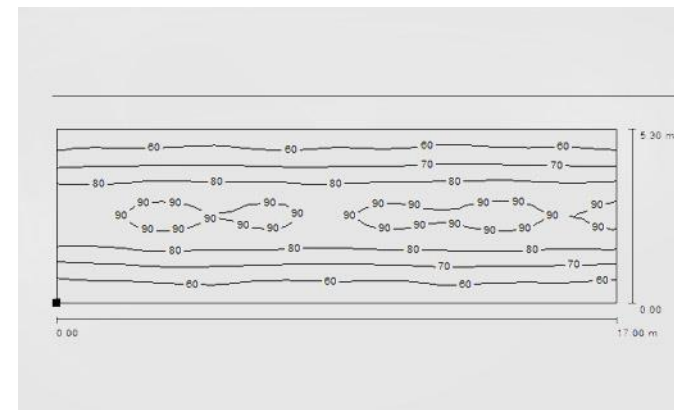
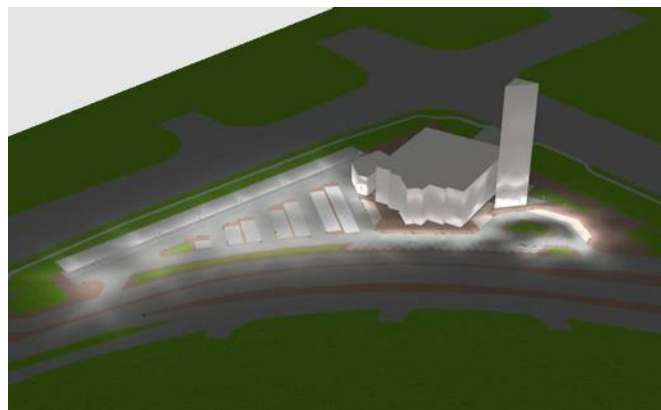
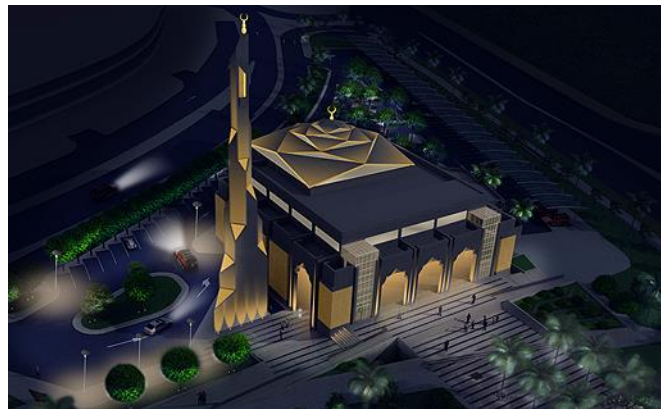
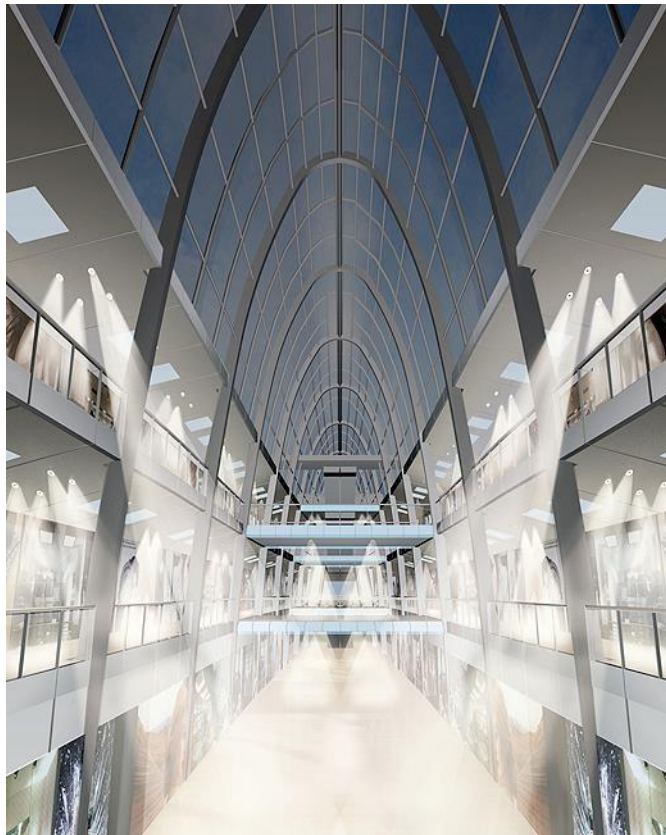
**Furniture**

1 Seating Area per 20 km of primary pathway  
1 Seating Area per 40 km of secondary pathway



## LDA Lighting Design Process

Lighting concept: Initial lighting design concept proposals





## LDA Lighting Design Process

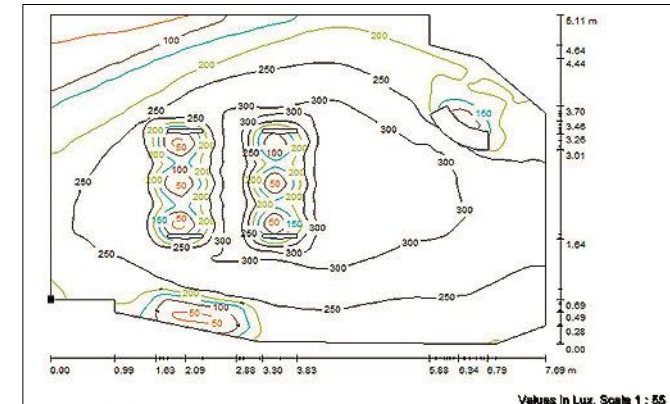
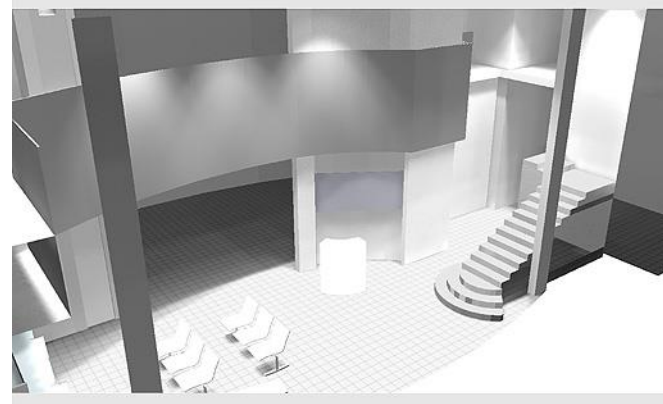
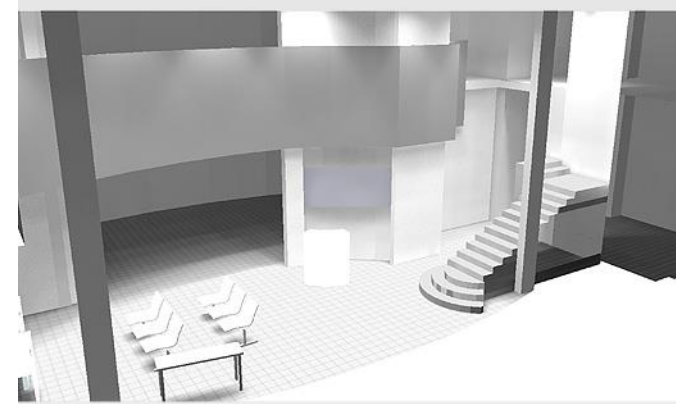
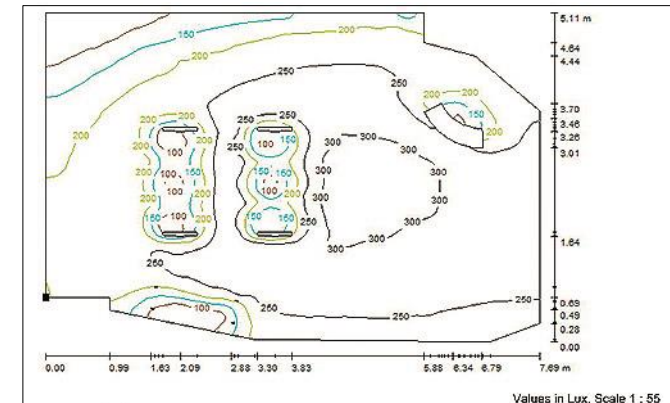
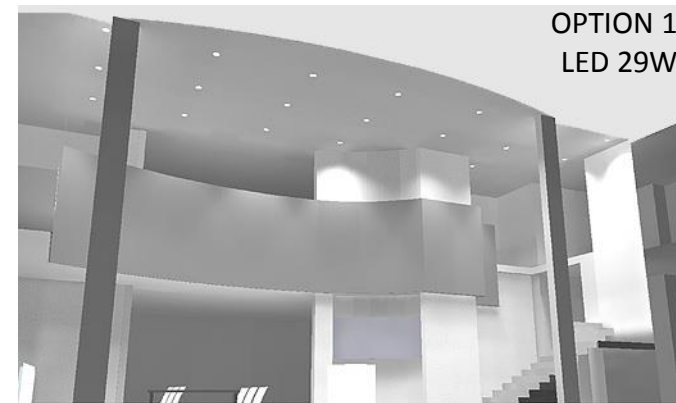
**Fixtures testing importance:** Comparison between manufacturer specifications and measurements

LED Downlights Test				
Manufacturer Specifications				Actual Measurements*
<b>Fixture A</b> IP 44 Ceiling cutout: φ 78 mm	Light source output: 1000 lm Luminaire light output: 829 lm Distribution angle: 48°	P <sub>sys</sub>	15 W	15,5 W (P <sub>VA</sub> 16,5 VA)
		T <sub>C</sub>	3000 K	3166 K
		E <sub>max</sub> **	653 lux	819,2 lux
<b>Fixture B</b> IP 20 Ceiling cutout: φ 70 mm	Light source output: 1000 lm Luminaire light output: no information Distribution angle: 40°	P <sub>sys</sub>	15 W	16,1 W (P <sub>VA</sub> 17,2 VA)
		T <sub>C</sub>	3000 K	2985 K
		E <sub>max</sub> **	1016 lux	587 lux
<b>Fixture C</b> IP 44 Ceiling cutout: φ 70 mm	Light source output: 1000 lm Luminaire light output: 547 lm Distribution angle: 44°	P <sub>sys</sub>	11,4 W	11 W (P <sub>VA</sub> 12,6 VA)
		T <sub>C</sub>	3000 K	3000 K
		E <sub>max</sub> **	414 lux	420 lux

\*Measurements taken at 1.4m distance from source, one hour after turning the fixture on.  
 \*\*Simulation in DialUX software using manufacturer's photometric data and maintenance factor of 1, with same geometry as measurements.

## LDA Lighting Design Process

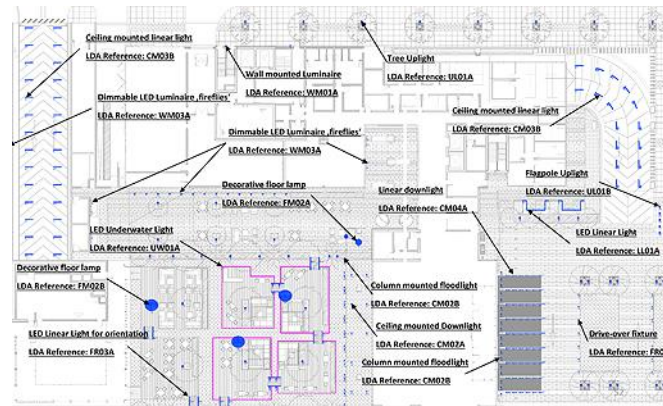
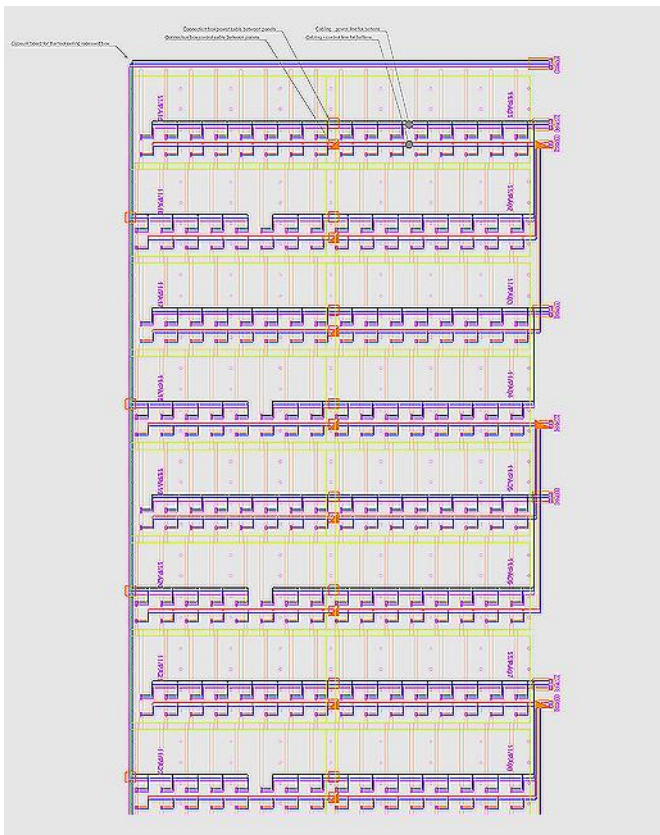
**Fixtures:** Alternative proposals for lighting fixtures based on simulation and analysis comparison





## LDA Lighting Design Process

Output: Technical drawings, fixtures detailed information, visualizations



## LDA Lighting Design Process

Implementation: Supervised implementation of lighting design project



Thank You for your attention and time!

Lighting Design Austria e.U.  
Marienstrasse 23, 3032 Eichgraben, Austria

Tel / Fax: +43 2773 435 34

Mobile: +43 664 16 00 140

E-mail: [office@LDA.at](mailto:office@LDA.at)

Web: [www.LDA.at](http://www.LDA.at)