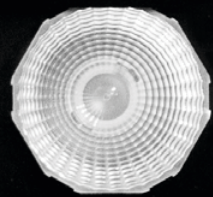
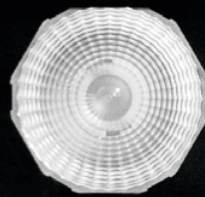
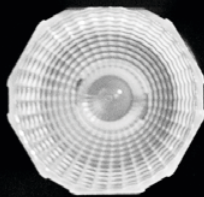
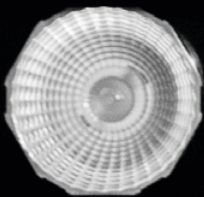


# .hess

## APPLICATION MANUAL INGROUND LUMINAIRES ACCADIA



.hess  
IP67

## APPLICATION MANUAL INGROUND LUMINAIRES ACCADIA

### ENHANCING URBAN SPACES

Beyond the pure basic function of lighting, light is increasingly given the task of structuring public spaces and buildings in the evening and night time hours, and immersing them in a pleasant atmosphere.

Light plays an increasingly important role as a creative and atmospheric element: Used skilfully, light not only defines attractions, but also significantly contributes to the desired aesthetic effect as a stylistic device in the architecture of public spaces or parks.

The key to success is thereby the planning, which creates the basis for the desired lighting effect of the installed luminaires, i.e. the illumination.

The product family ACCADIA allows architects and planners to create highly diverse ambiances in various application areas.

### INTRODUCTION PRODUCT FAMILY

ACCADIA is a ground recessed luminaire product family, designed for wall washing and wall accent lighting.

The product family contains two different shapes: round and rectangular. Additionally, both forms are available in different sizes and LED configurations. In standard, 3000K and 4000K LED light colors are available. 5700K is available on request.

### ADVANTAGES

#### NO GLARE

- By using the reflector technology in the asymmetric versions (Bartenbach inside), ACCADIA creates indirect light with a perfect light distribution virtually without glare. A special „spoon-reflector“ provides for a even light distribution on the surfaces to be illuminated. Through using these reflectors the LEDs are not directly visible – avoiding glare accordingly.

#### NO LIGHT POLLUTION

- By using the reflector technology, ACCADIA guarantees an extremely homogeneous light distribution. Due to the adjustability of the reflector it is possible to precisely direct the light. An accurate “cut-off“ at the top area illuminated allows to minimize or virtually eliminate light pollution – currently a uniqueness when using inground luminaires.

#### HIGH DESIGN QUALITY

- ACCADIA is a high-quality and long-life product. Materials such as stainless steel and a special IR glass are used to guarantee a high resistance and a long lifetime of the product. The inground luminaires do not have any screws located at the top. The result is a clear and “clean“ surface with a distinct quality, which does not provide dust or dirt with a target. On the one hand, the light distribution cannot be negatively influenced in this way and on the other hand the lateral and underneath positioned screws are optimally protected against external effects and therefore against corrosion.

#### EASY INSTALLATION

- The luminaire does not have to be opened for installation. ACCADIA comes pre-cabled and pre-tilted with a standard cable. A standard Hess connector for the connection of the luminaire to the ground cable is available. It can be chosen between two versions. Either as connection set for the easy installation of the luminaire to the ground cable or as connection set for an installation where the cable can be looped through from luminaire to luminaire.



## LIGHT TECHNOLOGY – BEAM ANGELS

Rotationally symmetric light distribution.

ACCADIA is available with two different, rotationally symmetric light distributions. Special lenses in combination with a scattered or unscattered reflector allow for a very narrow distribution of 7° (Y50% = 2x3,6°) and a mid-distribution of 26° (Y50% = 2x13°).



Reflector 0% scat  
Y10% = 2 x 6,6°  
Y50% = 2 x 3,6°



Reflector 20% scat  
Y10% = 2 x 22,6°  
Y50% = 2 x 13°

## TECHNICAL INFORMATION

### GENERAL INFORMATION ACCADIA R220



|                             |                  |
|-----------------------------|------------------|
| Size [mm]                   | ø 220            |
| Used LED's                  | Luxeon MZ        |
| Color temperatur [K]        | 3000K / 4000K    |
| Color rendering Index [CRI] | 80               |
| Color consistency [SDCM]    | 3                |
| System power [W]            | 10 W             |
| Service life                | L70B10 / 50.000h |

### ADDITIONAL INFORMATION

| Rot.Sym. | Asym. | Scattering | System luminous flux [lm] | Tilting |
|----------|-------|------------|---------------------------|---------|
| -        | X     | -          | 475                       | -10°    |
|          |       | -          | 565                       | 0°      |
|          |       | -          | 655                       | +10°    |
|          |       | -          | 653                       | +20°    |
| X        | -     | 0%         | 1364                      | -10°    |
|          |       |            | 1364                      | 0°      |
|          |       |            | 1364                      | +10°    |
| X        | -     | 20%        | 719                       | -10°    |
|          |       |            | 719                       | 0°      |
|          |       |            | 719                       | +10°    |

### GENERAL INFORMATION ACCADIA R300



|                             |                  |
|-----------------------------|------------------|
| Size [mm]                   | ø 300            |
| Used LED's                  | Luxeon MZ        |
| Color temperatur [K]        | 3000K / 4000K    |
| Color rendering Index [CRI] | 80               |
| Color consistency [SDCM]    | 3                |
| System power [W]            | 20 W             |
| Service life                | L70B10 / 50.000h |

### ADDITIONAL INFORMATION

| Rot.Sym. | Asym. | Scattering | System luminous flux [lm] | Tilting |
|----------|-------|------------|---------------------------|---------|
| -        | X     | -          | 950                       | -10°    |
|          |       | -          | 1130                      | 0°      |
|          |       | -          | 1310                      | +10°    |
|          |       | -          | 1306                      | +20°    |
| X        | -     | 0%         | 2728                      | -10°    |
|          |       |            | 2728                      | 0°      |
|          |       |            | 2728                      | +10°    |
| X        | -     | 20%        | 2169                      | -10°    |
|          |       |            | 2169                      | 0°      |
|          |       |            | 2169                      | +10°    |

## GENERAL INFORMATION ACCADIA L300



|                             |                  |
|-----------------------------|------------------|
| Size [mm]                   | L 300            |
| Used LED's                  | Luxeon MZ        |
| Color temperatur [K]        | 3000K / 4000K    |
| Color rendering Index [CRI] | 80               |
| Color consistency [SDCM]    | 3                |
| System power [W]            | 10 W             |
| Service life                | L70B10 / 50.000h |

## ADDITIONAL INFORMATION

| Rot.Sym. | Asym. | Scattering | System luminous flux [lm] | Tilting |
|----------|-------|------------|---------------------------|---------|
| -        | X     | -          | 475                       | -10°    |
|          |       | -          | 565                       | 0°      |
|          |       | -          | 655                       | +10°    |
|          |       | -          | 653                       | +20°    |
| X        | -     | 0%         | 1364                      | 0°      |
|          |       |            | 1364                      |         |
|          |       |            | 1364                      |         |
| X        | -     | 20%        | 691                       | 0°      |
|          |       |            | 691                       |         |
|          |       |            | 691                       |         |

## GENERAL INFORMATION ACCADIA L600



|                             |                  |
|-----------------------------|------------------|
| Size [mm]                   | L 600            |
| Used LED's                  | Luxeon MZ        |
| Color temperatur [K]        | 3000K / 4000K    |
| Color rendering Index [CRI] | 80               |
| Color consistency [SDCM]    | 3                |
| System power [W]            | 20 W             |
| Service life                | L70B10 / 50.000h |

## ADDITIONAL INFORMATION

| Rot.Sym. | Asym. | Scattering | System luminous flux [lm] | Tilting |
|----------|-------|------------|---------------------------|---------|
| -        | X     | -          | 950                       | -10°    |
|          |       | -          | 1130                      | 0°      |
|          |       | -          | 1310                      | +10°    |
|          |       | -          | 1306                      | +20°    |
| X        | -     | 0%         | 2728                      | 0°      |
|          |       |            | 2728                      |         |
|          |       |            | 2728                      |         |
| X        | -     | 20%        | 1382                      | 0°      |
|          |       |            | 1382                      |         |
|          |       |            | 1382                      |         |

## GENERAL INFORMATION ACCADIA L900



|                             |                  |
|-----------------------------|------------------|
| Size [mm]                   | L 900            |
| Used LED's                  | Luxeon MZ        |
| Color temperatur [K]        | 3000K / 4000K    |
| Color rendering Index [CRI] | 80               |
| Color consistency [SDCM]    | 3                |
| System power [W]            | 30 W             |
| Service life                | L70B10 / 50.000h |

## ADDITIONAL INFORMATION

| Rot.Sym. | Asym. | Scattering | System luminous flux [lm] | Tilting |
|----------|-------|------------|---------------------------|---------|
| -        | X     | -          | 1425                      | -10°    |
|          |       | -          | 1695                      | 0°      |
|          |       | -          | 1965                      | +10°    |
|          |       | -          | 1959                      | +20°    |
| X        | -     | 0%         | 4092                      | 0°      |
|          |       |            | 4092                      |         |
|          |       |            | 4092                      |         |
| X        | -     | 20%        | 2073                      | 0°      |
|          |       |            | 2073                      |         |
|          |       |            | 2073                      |         |

## STANDARD BUILT-IN SITUATIONS

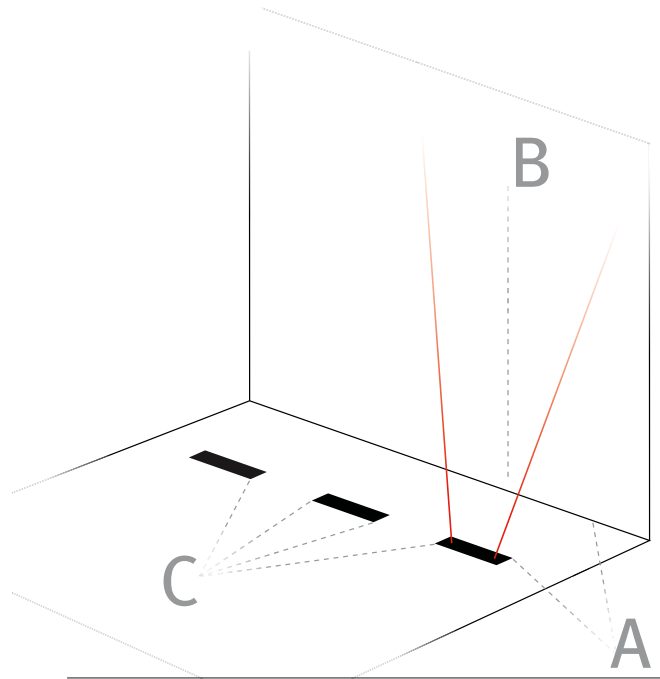
Three parameters are necessary to know and define in order to achieve the best lighting result.

A = The distance between wall and middle of inground luminaire

B = The max. height of the wall that is to be illuminated

C = The distance between the luminaires

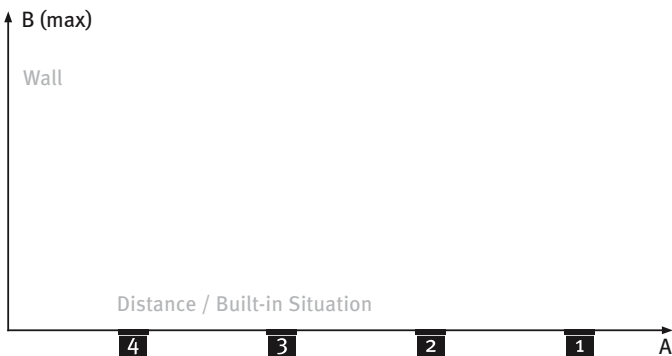
You have to take care of all three parameters in your project to achieve the optimal uniformity on the surface that is to be illuminated. The calculation chart (following page) serves as point of reference for the dimensioning and supports finding the right position.



## TILTING

The reflectors in ACCADIA can be tilted. The tilting angle depends on the built-in situation (1, 2, 3 or 4). The tilting of the reflectors comes pre-installed according to the light planning, so normally no changes have to be done on site.

## BUILT-IN SITUATION



built-in situation 1  
tilt position -10°



built-in situation 2  
tilt position 0°



built-in situation 3  
tilt position 10°



built-in situation 4  
tilt position 20°

## EXAMPLE POSITION: wall height 10 m



### Calculation Chart for ACCADIA L300, 3000K static white

| Built-in situation | A = Distance from the wall [m] | B = Max. height level on the wall [m] | C = max distance between the luminaires [m] | max. light level on the wall [lux] | Tilt Position |
|--------------------|--------------------------------|---------------------------------------|---|------------------------------------|---------------|
| 4                  | 0,5                            | 7,5                                   | 1   | 156                                | 20°           |
| 3                  | 1                              | 8,0                                   | 1   | 83                                 | 10°           |
| 2                  | 1,5                            | 9,0                                   | 1   | 40                                 | 0°            |
| 1                  | 2                              | 10,0                                  | 1   | 27                                 | -10°          |



### Calculation Chart for ACCADIA L600, 3000K static white

| Built-in situation | A = Distance from the wall [m] | B = Max. height level on the wall [m] | C = max distance between the luminaires [m] | max. light level on the wall [lux] | Tilt Position |
|--------------------|--------------------------------|---------------------------------------|---|------------------------------------|---------------|
| 4                  | 0,5                            | 7,5                                   | 1,5   | 238                                | 20°           |
| 3                  | 1                              | 8,0                                   | 1,5   | 99                                 | 10°           |
| 2                  | 1,5                            | 9,0                                   | 1,5   | 53                                 | 0°            |
| 1                  | 2                              | 10,0                                  | 1,5   | 35                                 | -10°          |



### Calculation Chart for ACCADIA L900, 3000K static white

| Built-in situation | A = Distance from the wall [m] | B = Max. height level on the wall [m] | C = max distance between the luminaires [m] | max. light level on the wall [lux] | Tilt Position |
|--------------------|--------------------------------|---------------------------------------|---|------------------------------------|---------------|
| 4                  | 0,5                            | 7,5                                   | 2   | 440                                | 20°           |
| 3                  | 1                              | 8,0                                   | 2   | 197                                | 10°           |
| 2                  | 1,5                            | 9,0                                   | 2   | 102                                | 0°            |
| 1                  | 2                              | 10,0                                  | 2   | 68                                 | -10°          |



### Calculation Chart for ACCADIA R220, 3000K static white

| Built-in situation | A = Distance from the wall [m] | B = Max. height level on the wall [m] | C = max distance between the luminaires [m] | max. light level on the wall [lux] | Tilt Position |
|--------------------|--------------------------------|---------------------------------------|---|------------------------------------|---------------|
| 4                  | 0,5                            | 7,5                                   | 1   | 156                                | 20°           |
| 3                  | 1                              | 8,0                                   | 1   | 83                                 | 10°           |
| 2                  | 1,5                            | 9,0                                   | 1   | 40                                 | 0°            |
| 1                  | 2                              | 10,0                                  | 1   | 27                                 | -10°          |



### Calculation Chart for ACCADIA R300, 3000K static white

| Built-in situation | A = Distance from the wall [m] | B = Max. height level on the wall [m] | C = max distance between the luminaires [m] | max. light level on the wall [lux] | Tilt Position |
|--------------------|--------------------------------|---------------------------------------|---|------------------------------------|---------------|
| 4                  | 0,5                            | 7,5                                   | 1,5   | 238                                | 20°           |
| 3                  | 1                              | 8,0                                   | 1,5   | 99                                 | 10°           |
| 2                  | 1,5                            | 9,0                                   | 1,5   | 53                                 | 0°            |
| 1                  | 2                              | 10,0                                  | 1,5   | 35                                 | -10°          |

## TYPE OF APPLICATIONS

ACCADIA can be used to illuminate following applications:

- Building Facades
- Columns and Pillars
- Arches and vaults
- Vertical Structures and Elements
- Trees and Sculptures

## INSTALLTION SUGGESTIONS

ACCADIA can be installed into any type of ground. For installation we recommend to use the ACCADIA recessed housing, which is included in delivery. This ensures being able to finalize the ground works without having to have installed the luminaire itself. Thus, a damage of the luminaire during the construction phase can be excluded.

The frame should be exactly at the same level as the ground surface. The reason being: The glass is mounted slightly higher so the rain can drain and the statics of the luminaire can be ensured in case people or vehicles crossing.

In addition, the details of the installation instructions have to be taken into account.

## HOW TO ACHIEVE THE BEST LIGHT EFFECT WITH ACCADIA

The inground luminaire family ACCADIA allows realizing different up-light effects. This can be used in landscape lighting to create special effects and light ambiances as counterpart to the “natural” light. ACCADIA luminaires illuminate from the bottom to the top – one can therefore call it an „unnatural” light effect.

To prevent the disadvantages through up-lighting such as glare, a professional planning is necessary. The luminaires must always be aimed away from the viewer. Alternatively, they can be mounted behind an object in order to avoid a direct view into the light.

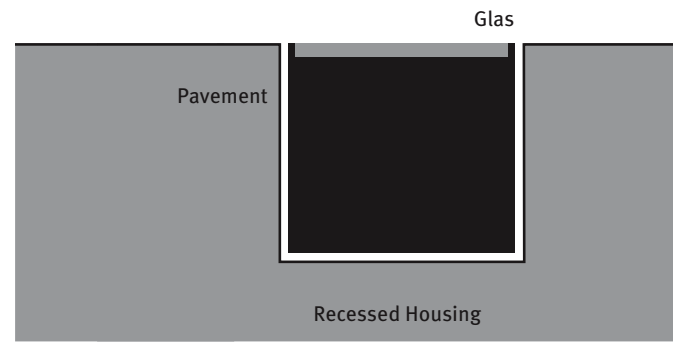
When using ACCADIA in front of a facade, a wall or a structure, up-light effects with high contrast can be realized. The result is a bright lit surface combined with dark shadows from the structure elements on the surface.

Example: Illumination of a tree with an inground luminaire

In case of dense ramification and a spacious top of trees, a positioning of the luminaires distant to the trunk and at the outer wane is recommended. In case of light ramification, a positioning close to the trunk is suitable.

## POSITIONING

The position of ACCADIA is given by the Hess logo located on the luminaire. It should be readable for the viewer when he is positioned in front of the luminaire and the wall that is to be illuminated.



## INTERACTION BETWEEN LIGHT AND MATERIALS

Notes on dealing with light colours on walls and on differences in the structures.

The right choice of light source and light colour is basic to obtain the desired lighting result. As the colour of the light source mixes with the colour of the surfaces, the perception is influenced. The degree of reflection of a surface plays also a role.

### Warm light colours 3000 - 3700K

Is used for materials with warm chromatic components.

Example: Brick, terracotta, tuff and most of woods.

### Neutral light colour 4000 - 4500K

Natural light for all type of materials without changing their chromatic components.

### Cold light colour 5700 - 7000K

Materials with mainly cold chromatic components.

Example: Stone, concrete and most of metals.

3000K



4000K



5700K



## WORK WITH SHADOWS

Using ACCADIA's close to walls and structures can create interesting and desired shadow effects. As a result of this, the illumination can attain a spatial depth effect of buildings and facades.



ACCADIA L asymmetric



ACCADIA L rotationally symmetric



ACCADIA R rotationally symmetric



ACCADIA R asymmetric

