

VIP ARCHITECTURER



# Partners in Architectural Lighting



TROIKA\_Arcade  
Lighting Designer | Milan Architectural  
Custom-Products | aSKa

## Your Architectural Lighting Partner

We are proud to present The aka collection of architectural grade specification lighting fixtures. The aSKa and aSKa-pro ranges offer integrated recessed lighting with architectural design.

These revolutionary downlights incorporate sophisticated control mechanisms providing a new level of installation techniques and effortless adjustment for most architectural spaces.

The aSKa Spotlight range of track and surface mount spotlights come with a wide selection of LED solutions for retail and gallery spaces.

PTG continues to pioneer INNOVATIVE PROGRAM ideas such as Ambiance WarmDim LED lighting and within the lighting industry probably has the most comprehensive range of LED downlight solutions currently available.

With products available worldwide through our specialist distributor network, PTG is your true International Lighting Partner.



































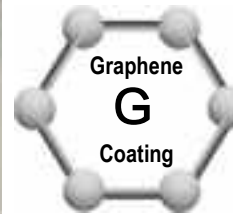




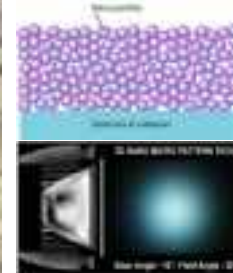




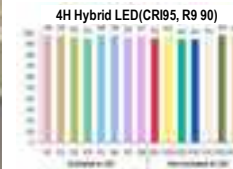




The effect of thermal dissipation by adding graphene nano-platelets to two different commercially available thermal dissipation coatings (ceramic coating and powder coating) was tested. Steady state temperatures of each Tc points of LED modules was monitored in a closed system, with an integral photo detection sphere where there is no external air flow. Having eliminated the contributions of thermal conduction(W/mk) and air flow convection, the cylinder engine module with a conventional heat dissipation coatings showed 8-16% enhancement of thermal dissipation compared to that of non-coated AL. LED thermal sink. The addition of graphene is shown to have about 13% additional enhancement. By analyzing thermal resistance of each component of the LED engine module, the improved thermal conductivity of the graphene added coatings contributes to the enhancement of slight improvement with heat dissipation.



The 3D Nano Micro Pattern Lens provides an extremely high preventive effect against reflections over a narrow beam range by reducing the reflection of multi-beam light that comes in perpendicular to the lens compared with conventional anti-multi beam layer. Furthermore, the 3D Nano Micro Pattern Coat exhibits unprecedentedly excellent effects against ghosts and glare that are caused by the light obliquely coming from the lens—a problem difficult to remove with conventional coatings. Its overwhelming effect has earned appraisal among professional architectural designer. Also, this NANO technology is likely to be used in areas other than cameras and optical equipment as well. Since the 3D Nano Micro Pattern Coat can be widely applied to familiar optical products such as binoculars and field scopes, to the cutting-edge equipment essential for space development—and not just to glass but to plastic materials, too—it can produce stunning effects on the things around us. The “3D Nano Micro Pattern Coat” is truly a new technology with extremely high potential.



CRI is merely an index value that considers 8 color samples. Though not included in the calculation of CRI, the CRI R9 special test color sample index is typically very low in blue-chip LED lights, reflecting the fact that they render red colors particularly poorly. aSKa 4H Hybrid LED lights have Ra values all above 90, R9 80 and show superior testing results for the recently developed CQS (Color Quality Scale, R9) as well. Due to our INNOVATIVE PROGRAM method of producing white light through a different type of chip and multiple phosphor conversion, we have achieved white LED light that is both quantitatively and qualitatively superior.

Ex.) CRI >90, R9>80, SDCM <3



aSka is a revolutionary passive thermal management system that combines extremely low thermal conduction paths, induced natural convection and a unique, patent pending thermal storage system. aSka “locks” the junction temperature of the LEDs by storing heat generated by LEDs, thereby allowing the LEDs to run at their full capacity without degradation in output or life. Even extreme fluctuations in ambient temperature have little effect on aSka thermal capacitance. aSka enables 30 to 40% more light output and allows new paradigms in fixture design as worst-case design constraints can be relaxed. aSka is suitable for both indoor and outdoor lighting applications.

# Architectural Retail Lighting



# aSKa® | LED Lighting matrix

PTG's successful aSKa and aSKa Pro range of architectural grade luminaires has been expanded to encompass a wide selection of LED light modules embracing the latest technology available in the market place. Shown below is the extensive range of PTG LED solutions available for the aSKa and aSKa Pro ranges of architectural downlights.



Index page 50  
- Square Plaster  
- 12.8W(=CDM 22W)  
- Back-Glowing  
- DALI Dimmable

Index page 50  
- Square Plaster  
- 12W(=CDM 22W)  
- Non-Glowing  
- DALI Dimmable

Index page 52  
- Square Plaster  
- 22.8W(=CDM 39W)  
- Back-Glowing  
- DALI Dimmable

Index page 52  
- Square Plaster  
- 22W(=CDM 39W)  
- Non-Glowing  
- DALI Dimmable

## PLASTER SQUARE DOWNLIGHT Micro Cylinder Engine 12W/22W



Index page 54  
- Round Plaster  
- 12.8W(=CDM 22W)  
- Back-glowing  
- DALI Dimmable

Index page 54  
- Round Plaster  
- 12W(=CDM 22W)  
- Non-glowing  
- DALI Dimmable

Index page 56  
- Round Plaster  
- 22.8W(=CDM 39W)  
- Back-glowing  
- DALI Dimmable

Index page 56  
- Round Plaster  
- 22W(=CDM 39W)  
- Non-glowing  
- DALI Dimmable

## PLASTER ROUND DOWNLIGHT Micro Cylinder Engine 12W/22W



Index page 66  
- Single Spot  
- 22W(=CDM 39W)  
- With trim(trimless)  
- DALI Dimmable

Index page 68  
- Duo Spot  
- 44W(=CDM 78W)  
- With trim(trimless)  
- DALI Dimmable

Index page 70  
- Trio Spot  
- 66W(=CDM 117W)  
- With trim(trimless)  
- DALI Dimmable

## GIMBAL-CARDAN CEILING DOWNLIGHT Micro Cylinder Engine 22W TRIM | TRIMLESS



Index page 74  
- Single Spot  
- 12W(=CDM 22W)  
- With trim(Flange)  
- DALI Dimmable

Index page 76  
- Duo Spot  
- 24W(=CDM 44W)  
- With trim(Flange)  
- DALI Dimmable

Index page 78  
- Trio Spot  
- 36W(=CDM 66W)  
- With trim(Flange)  
- DALI Dimmable

## EYEBALL-CARDAN CEILING DOWNLIGHT Micro Cylinder Engine 12W TRIM | TRIMLESS



Index page 80  
- Single Spot  
- 22W(=CDM 39W)  
- With trim(Flange)  
- DALI Dimmable

Index page 82  
- Duo Spot  
- 44W(=CDM 78W)  
- With trim(Flange)  
- DALI Dimmable

Index page 84  
- Trio Spot  
- 66W(=CDM 117W)  
- With trim(Flange)  
- DALI Dimmable

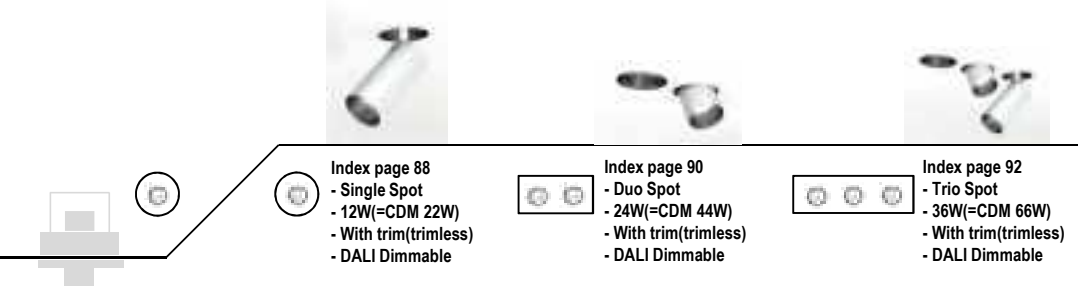
## GIMBAL-CARDAN CEILING DOWNLIGHT Micro Cylinder Engine 12W TRIM | TRIMLESS

## EYEBALL-CARDAN CEILING DOWNLIGHT Micro Cylinder Engine 22W TRIM | TRIMLESS



# aSKa® | LED Lighting matrix

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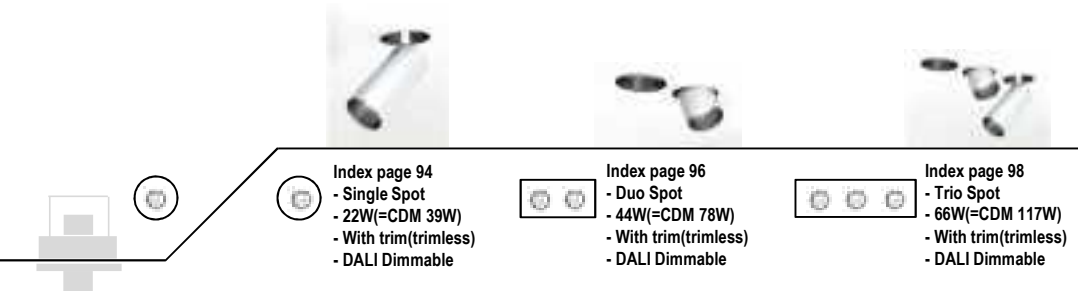


## RECESSED ADJUSTABLE DOWNLIGHT Micro Cylinder Engine 12W TRIM | TRIMLESS

Index page 88  
- Single Spot  
- 12W(=CDM 22W)  
- With trim(trimless)  
- DALI Dimmable

Index page 90  
- Duo Spot  
- 24W(=CDM 44W)  
- With trim(trimless)  
- DALI Dimmable

Index page 92  
- Trio Spot  
- 36W(=CDM 66W)  
- With trim(trimless)  
- DALI Dimmable

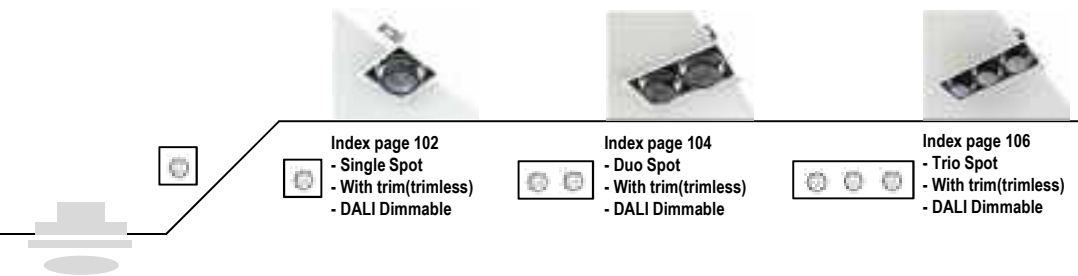


## RECESSED ADJUSTABLE DOWNLIGHT Micro Cylinder Engine 22W TRIM | TRIMLESS

Index page 94  
- Single Spot  
- 22W(=CDM 39W)  
- With trim(trimless)  
- DALI Dimmable

Index page 96  
- Duo Spot  
- 44W(=CDM 78W)  
- With trim(trimless)  
- DALI Dimmable

Index page 98  
- Trio Spot  
- 66W(=CDM 117W)  
- With trim(trimless)  
- DALI Dimmable

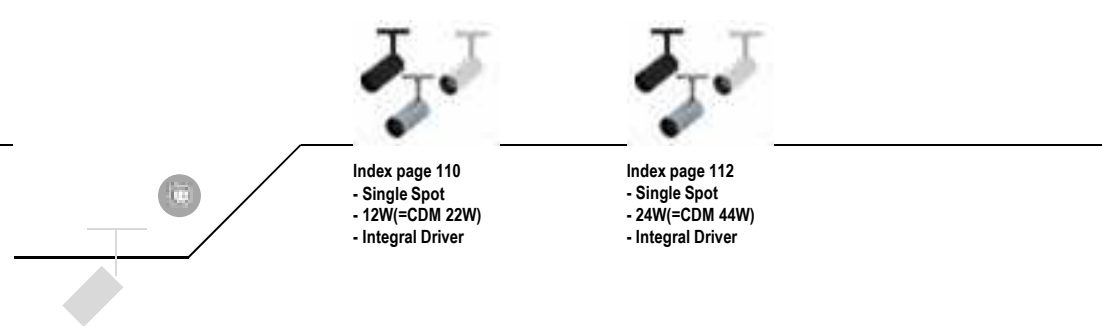


## CARDAN LED DOWNLIGHT Micro Cylinder Engine 28W TRIM | TRIMLESS

Index page 102  
- Single Spot  
- With trim(trimless)  
- DALI Dimmable

Index page 104  
- Duo Spot  
- With trim(trimless)  
- DALI Dimmable

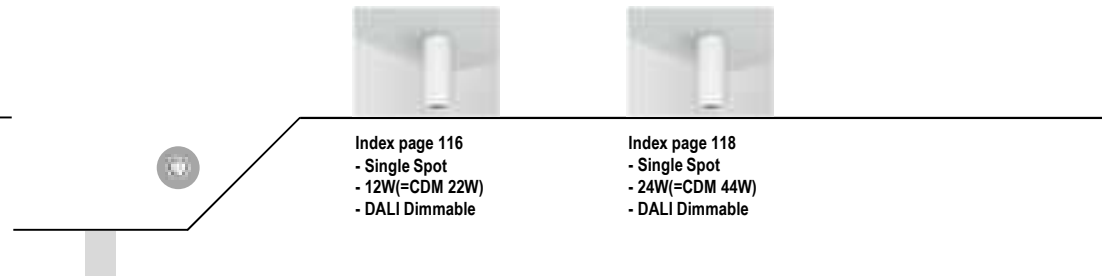
Index page 106  
- Trio Spot  
- With trim(trimless)  
- DALI Dimmable



## MICRO TRACK LIGHT Integral Driver Micro Cylinder Engine 12W/22W

Index page 110  
- Single Spot  
- 12W(=CDM 22W)  
- Integral Driver

Index page 112  
- Single Spot  
- 24W(=CDM 44W)  
- Integral Driver



## SURFACE MOUNTED Downlight Micro Cylinder Engine 12W / 22W

Index page 116  
- Single Spot  
- 12W(=CDM 22W)  
- DALI Dimmable

Index page 118  
- Single Spot  
- 24W(=CDM 44W)  
- DALI Dimmable



## SURFACE PENDANT Downlight Micro Cylinder Engine 12W / 22W

Index page 122  
- Single Spot  
- 12W(=CDM 22W)  
- DALI Dimmable

Index page 124  
- Single Spot  
- 22W(=CDM 39W)  
- DALI Dimmable



# aSKa® | LED Lighting matrix

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Index page 128  
- Single Spot  
- 22W(=CDM 39W)  
- Trim(Trimless)  
- DALI Dimmable



Index page 130  
- Single Spot  
- 15W(=CDM 22W)  
- Trim(Trimless)  
- DALI Dimmable



Index page 132  
- Single Spot  
- 35W  
- Trim(Trimless)  
- DALI Dimmable



Index page 134  
- Single Spot  
- 60W(=CDM 22W)  
- Trim(Trimless)  
- DALI Dimmable



## PINHOLE DOWNLIGHT

Lighting Engine : 15W | 22W | 35W | 60W

Adjustable

TRIM | TRIMLESS



Index page 146  
- Single Spot  
- 21W  
- Trim(Trimless)



Index page 148  
- Single Spot  
- 42W  
- Trim(Trimless)



## DUO LINEAR SPOT DOWNLIGHT | 10° | 30° | 60° TRIM | TRIMLESS



Index page 138  
- Single Spot  
- 12W(=CDM 22W)  
- Trim(Trimless)



## GRAZER ELLIPTICAL DOWNLIGHT | 10° \*60°

Micro Module Engine 12W

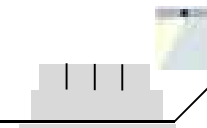
TRIM | TRIMLESS



Index page 150  
- Single Spot  
- 10.5W  
- Trim(Trimless)



Index page 152  
- Single Spot  
- 21W  
- Trim(Trimless)



## ASYMMETRIC LINEAR SPOT DOWNLIGHT TRIM | TRIMLESS



Index page 140  
- Single Spot  
- 4.2W  
- Trim(Trimless)



Index page 142  
- Single Spot  
- 10.5W  
- Trim(Trimless)



Index page 144  
- Single Spot  
- 21W  
- Trim(Trimless)



## LINEAR SPOT DOWNLIGHT | 10° | 30° | 60°

TRI | TRIMLESS



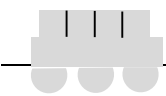
Index page 154  
- Single Spot  
- 2.5W



Index page 156  
- Single Spot  
- 5W



Index page 158  
- Single Spot  
- 7.5W



## EYEBALL DOWNLIGHT | 10° , 30° 360° Adjustable Micro Ball Engine 3W TRIM | TRIMLESS

# aSKa® | LED Mill-Works Lighting matrix

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**ACCENT COMPACT SPOT\_3W**  
Adjustable



Index page 162  
- Single Spot  
- 3W  
- Pin Type



Index page 163  
- Single Spot  
- 3W  
- Puck Type



Index page 164  
- Single Spot  
- 3W  
- Flat Type



Index page 165  
- Single Spot  
- 3W  
- Pole Type



Index page 166  
- Single Spot  
- 3W  
- Bar Type



Index page 184  
- Single Spot  
- 3W

**PUCK CABINET DOWNLIGHT\_3W**  
Not adjustable



**ACCENT EYEBALL SPOT\_3W**  
Adjustable



Index page 170  
- Single Spot  
- 1.2W  
- Pin Type



Index page 171  
- Single Spot  
- 1.2W  
- Puck Type



Index page 172  
- Single Spot  
- 1.2W  
- Flat Type



Index page 173  
- Single Spot  
- 1.2W  
- Pole Type



Index page 174  
- Single Spot  
- 1.3W  
- Adjustable Puck



Index page 188  
- Single Spot  
- 12W(=CDM 22W)  
- Corner Bracket



Index page 189  
- Single Spot  
- 12W  
- Pin Type



Index page 190  
- Single Spot  
- 12W  
- Flat Type



Index page 191  
- Single Spot  
- 12W  
- Puck Type



Index page 192  
- Single Spot  
- 12W  
- Downlight Type



Index page 193  
- Single Spot  
- 12W  
- Multi Downlight



**COMPACT YOKE SPOT\_12W**  
Adjustable



Index page 178  
- Single Spot  
- 1.2W



Index page 179  
- Single Spot  
- 2.5W



Index page 180  
- Single Spot  
- 5W



Index page 181  
- Single Spot  
- 7.5W



**EYEBALL CABINETSPOT**  
Adjustable



Index page 196  
- Single Spot\_10\*60°  
- 12W



**ELLIPTICAL GRAZER SPOT\_12W**  
Adjustable  
10\*60°

# aSKa® | LED mill-Works Lighting matrix

PTG's successful aSKa and aSKa Pro range of architectural grade luminaires has been expanded to encompass a wide selection of LED light modules embracing the latest technology available in the market place. Shown below is the extensive range of PTG LED solutions available for the aSKa and aSKa Pro ranges of architectural downlights.



- Index page 200
- Multi Shadow
  - 2.3W
  - 0-10V Dimmable

## MULTI-STAGE RIGID STRIPLED\_2.3W LED Lighting Engine



- Index page 214
- Single Spot
  - 4W | 6W | 8W
  - Internal Driver
  - Crystal Glass



- Index page 214
- Single Spot
  - 4W | 6W | 8W
  - Internal Driver
  - Crystal Glass & Half Chrome coating

## CLASSIC LED FLIP FILAMENT BULB Integral Driver A60\_E26



- Index page 204
- Flexible Roll\_1000mm
  - Multi Spot
  - 6.6W/m
  - Cuttable



- Index page 205
- Flexible Tile 300\*300mm
  - Multi Spot
  - 5.6W
  - Cuttable

## SLIM FLEX ROLL



- Index page 218
- Modular Track Rail
  - Trimless
  - L: 500/1000/1500/2000mm

## MODULAR LED SYSTEM TRACK RAIL



- Index page 208
- Single Spot
  - Size : W 15mm \* H 12.5mm
  - W : 2.9 | 5.8 | 11.6 | 17.4 | 23.2



- Index page 210
- Single Spot
  - Size : W 12mm \* H 10mm
  - W : 2.9 | 5.8 | 11.6 | 17.4 | 23.2

## SLIM LINEAR PITCHLESS | 30° | 60° | 110° SMART CONNECTOR



- Index page 219
- Micro Track Spot Light
  - Track | Magnetic
  - 12W | 22W



- Index page 220
- Eyeball Linear Track Light
  - Track
  - 9.6W | 14.4W



- Index page 221
- Slim Linear Track Light
  - Track
  - 9.6W | 14.4W



- Index page 222
- Blade Track Light
  - Track
  - 21W | 42W

## MODULAR LED LIGHTING ENGINE TRACK RAIL

# aSKa® | LED INNOVATIVE Lighting matrix

PTG's successful aSKa and aSKa Pro range of architectural grade luminaires has been expanded to encompass a wide selection of LED light modules embracing the latest technology available in the market place. Shown below is the extensive range of PTG LED solutions available for the aSKa and aSKa Pro ranges of architectural downlights.



Index page 223  
-Micro Spot Light  
-Track  
-3W



Index page 224  
-Micro Spot Light  
-Track  
-12W

## MODULAR LED LIGHTING ENGINE TRACK RAIL



Index page 228  
- SMART LED STREET LIGHT  
- 100W | 125W | 150W  
- Modular 25W Engine  
- AlN Special heat sink  
- Semiconductor IC

## MILL-WORK INNO SYSTEM Micro Cylinder Engine 12W / 22W



Index page 234  
- OLED Panel LIGHT  
- L53mm \* W55mm  
- 0.34W | 0.36W



Index page 234  
- OLED Panel LIGHT  
- L100mm \* W100mm  
- 1.38W | 1.275W



Index page 235  
- OLED Panel LIGHT  
- L140mm \* W140mm  
- 2.88W | 2.55W



Index page 235  
- OLED Panel LIGHT  
- L320mm \* W320mm  
- 15W | 13.6W

## OLED Square Thin film Panel



Index page 236  
- OLED Flex Curve Panel LIGHT  
- L200mm \* W50mm  
- 1.47W



Index page 236  
- OLED Flex Curve Panel LIGHT  
- L406mm \* W50mm  
- 3W

## OLED FLEX-CURVE THIN FILM PANEL



Index page 236  
- OLED Rectangle Panel LIGHT  
- L213mm \* W113mm  
- 3.42W | 3.15W



Index page 236  
- OLED Rectangle Panel LIGHT  
- L320mm \* W110mm  
- 4.8W | 4.25W



Index page 236  
- OLED Rectangle Panel LIGHT  
- L200mm \* W50mm  
- 1.38W | 1.28W

## OLED RECTANGLE THIN FILM PANEL



Index page 236  
- OLED Circle Panel LIGHT  
- Ø109  
- 1.38W

## OLED CIRCLE THIN FILM PANEL





PTG's successful aSKa and aSKa Pro Range of architectural grade luminaires has now been expanded to encompass a wide selection of LED ceiling light modules embracing the latest technology available in the market place.

With PTG's new "PLASTER Downlight" Warm Dim modules added to the already extensive programme of LED modules from MICRO CYLINDER Engine.

plus our own micro cylinder engine 12 and 22 modules we feel that we have the low energy solution to many applications, be it hospitality, retail, commercial or residential.

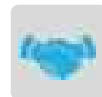
LED technology is seriously challenging conventional light sources not only in lumen output and colour rendition but also in size and affordability finally allowing the lighting professional to design with green credentials.



MULTIDISCIPLINARY APPROACH



LOW TOTAL OPERATING COSTS



STRONG PARTNERSHIP



LIGHT QUALITY



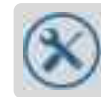
LED LIGHTING EXPERIENCE



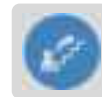
ENVIRONMENT



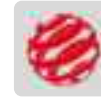
PROPRIETARY TECHNOLOGY AND INTELLECTUAL PROPERTY



EASE OF INSTALLATION



BEST OF BREED PRODUCTS



INNOVATIVE DESIGN



CTA\_R9 NANO TECHNOLOGY



NANO MATERIALS SCIENCE AND ANALYSIS



MICROINFORMATION SYSTEMS



ENERGY EFFICIENCY



## ROBETO\_12W

Nano Graphene coating cylinder body white painted and Plaster trim for plaster board. High emission warm white 3000K or neutral white (4000K) LED with Ra >90; R9 >80 on request.

Flood precision NANO Micro Pattern Lens available in polished faceted version or smooth matt finishing with clean beam image.

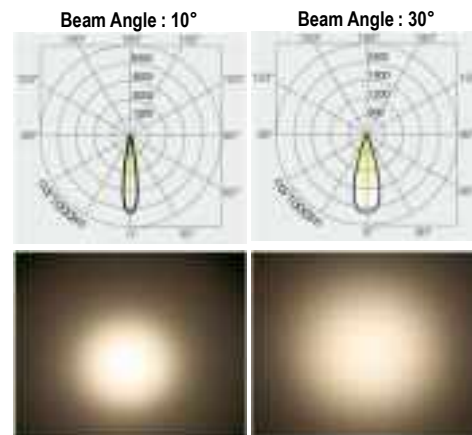
NANO Micro pattern lens technology.

The fixture is suitable for installations in workplaces (UGR<22). Ultra rapid tools free mounting system for false ceiling installation from 0 to 30mm. Passive dissipation system. Equipped with cable (600mm) and plug for easy and safe connection to the driver. To be completed with DRIVER COMPATIBILITY GUIDE, available in electronic, electronic DALI dimmable.

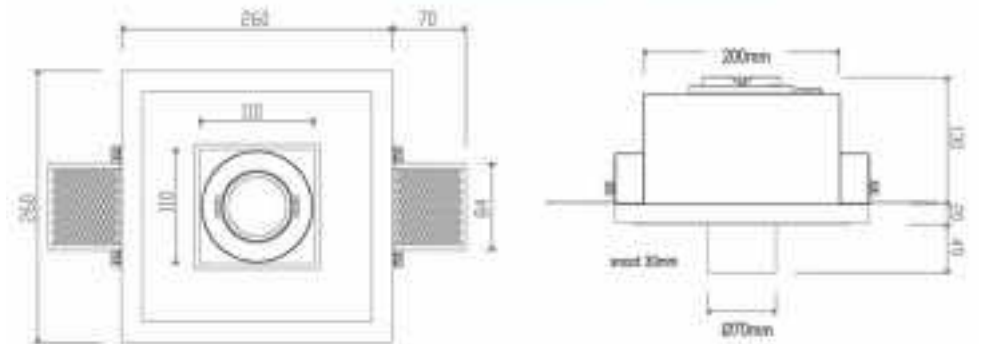
Emergency kit with 2h battery.



FIXTURE POWER	12W Non-Glowing		12.8W Back-Glowing	
KEVIN_CCT	3000K	4000K	3000K	4000K
EQUIVALENCE	CDM 22W			
FIXTURE FLUX_lm	530	580	530	580
BACK-GLOWING	NG_NON GLOWING		G_Back Glowing	
EFFICACY_lm/W	>45	>48	>45	>48
LUX@1m=22W CDM	>12,000_10°   >1,300_30°			
CRI_Ra	>90			
CTA_R9	>80			
SDCM_MacAdam	<3			
BEAM IMAGE	Single Shadow			
BEAM ANGLE_°	10°   30°			

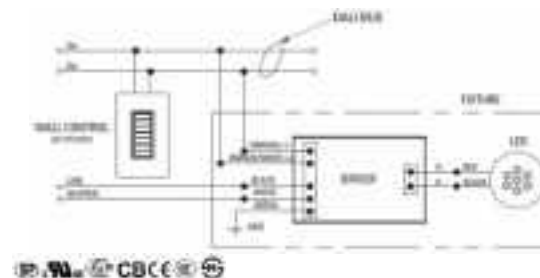


## INNOVATION PROGRAM | NANO TECHNOLOGY | HYBRID LED | PLASTER



OPTION	CODE
Back-Glowing light	G
Non Back-Glowing light	NG
OPTICAL ACCESSORY	CODE
Hex Cell Louver	L
UV-Filter	U
EMERGENCY KIT	CODE
Emergency + Battery pack 2h	E
ORDERING	CODE
RB1C-12-10-G-DA-G-L	

## DRIVER COMPATIBILITY GUIDE



**DIMMING DRIVER WIRING SCHEMES ;**  
Note : Wiring diagrams are examples of typical installations intended to illustrate the number of wires that must be run to fixture. These diagrams are not intended to specify all equipment necessary for a given dimming circuit. Refer to specific dimmer manufacture's documentation for details.

Electronic 180~295Vac	D
DALI dimmable electronic 200~240Vac	DA
Electronic 0-10V Dimming 180~295Vac	DD

# aSKa® | PLASTER TRIM DS\_22W



## ROBETO\_22W

Nano Graphene coating cylinder body white painted and Plaster trim for plaster board. High emission warm white 3000K or neutral white (4000K) LED with Ra >90; R9 >80 on request.

Flood precision NANO Micro Pattern Lens available in polished faceted version or smooth matt finishing with clean beam image.

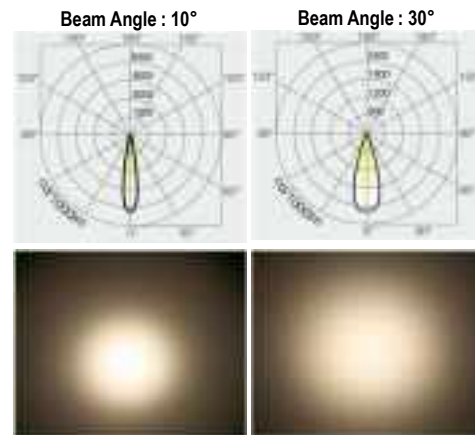
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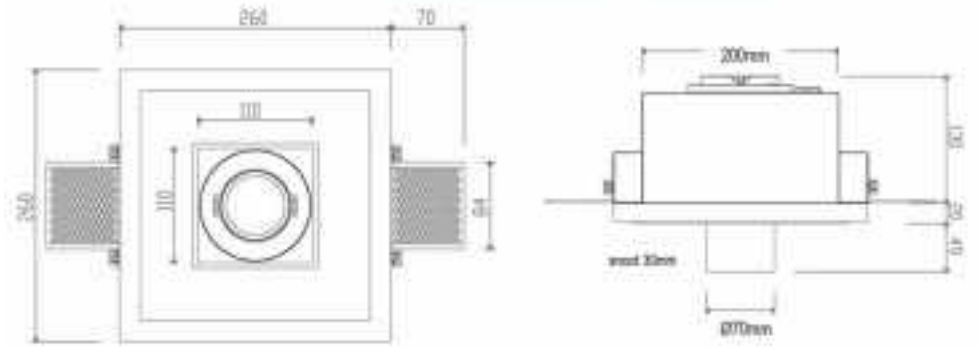
Emergency kit with 2h battery.



FIXTURE POWER	22W Non-Glowing		22.8W Back-Glowing	
KEVIN_CCT	3000K	4000K	3000K	4000K
EQUIVALENCE	CDM 39W			
FIXTURE FLUX_lm	900	1000	900	1000
BACK-GLOWING	NG_NON GLOWING		G_BACK GLOWING	
EFFICACY_lm/W	>42	>45	>42	>45
LUX@1m=22W CDM	>21,000_10°   >3,000_30°			
CRI_Ra	>90			
CTA_R9	>80			
SDCM_MacAdam	<3			
BEAM IMAGE	Single Shadow			
BEAM ANGLE_°	10°   30°			

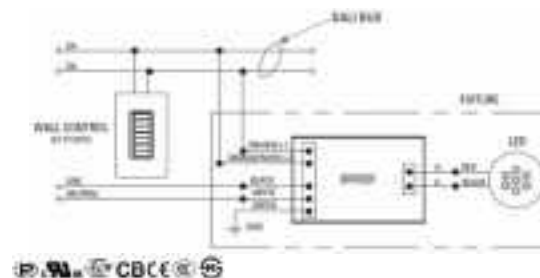


## INNOVATION PROGRAM | NANO TECHNOLOGY | HYBRID LED | PLASTER



OPTION	CODE
Back-Glowing light	G
Non Back-Glowing light	NG
OPTICAL ACCESSORY	CODE
Hex Cell Louver	L
UV-Filter	U
EMERGENCY KIT	CODE
Emergency + Battery pack 2h	E
ORDERING	CODE
RB1C-22-10-G-DA-G-L	

## DRIVER COMPATIBILITY GUIDE



**DIMMING DRIVER WIRING SCHEMES ;**  
Note : Wiring diagrams are examples of typical installations intended to illustrate the number of wires that must be run to fixture. These diagrams are not intended to specify all equipment necessary for a given dimming circuit. Refer to specific dimmer manufacture's documentation for details.

Electronic 180~295Vac	D
DALI dimmable electronic 200~240Vac	DA
Electronic 0-10V Dimming 180~295Vac	DD





ROMEO\_12W

Nano Graphene coating cylinder body white painted and Plaster trim for plaster board. High emission warm white 3000K or neutral white (4000K) LED with Ra >90; R9 >80 on request.

Flood precision NANO Micro Pattern Lens available in polished faceted version or smooth matt finishing with clean beam image.

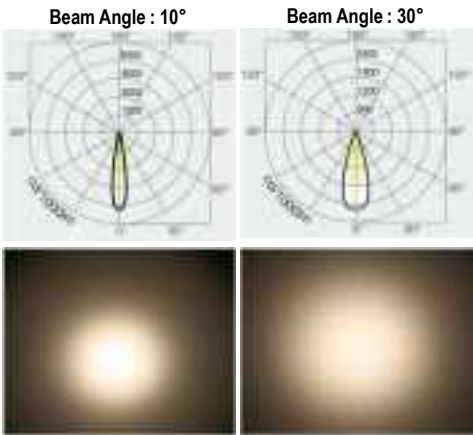
NANO Micro pattern lens technology.

The fixture is suitable for installations in workplaces (UGR<22). Ultra rapid tools free mounting system for false ceiling installation from 0 to 30mm. Passive dissipation system. Equipped with cable (600mm) and plug for easy and safe connection to the driver. To be completed with DRIVER COMPATIBILITY GUIDE, available in electronic, electronic DALI dimmable.

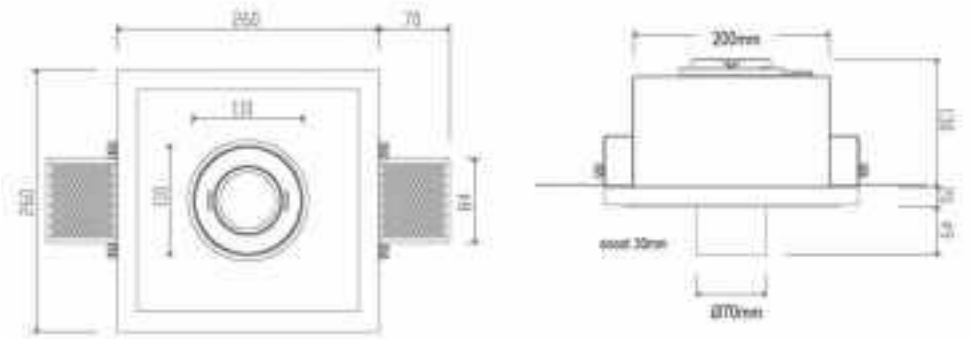
Emergency kit with 2h battery.



FIXTURE POWER	12W Non-Glowing		12.8W Back-Glowing	
KEVIN_CCT	3000K	4000K	3000K	4000K
EQUIVALENCE	CDM 22W			
FIXTURE FLUX_lm	530	580	530	580
BACK-GLOWING	NG_NON GLOWING		G_BACK GLOWING	
EFFICACY_lm/W	>45	>48	>45	>48
LUX@1m=22W CDM	>12,000_10°   >1,300_30°			
CRI_Ra	>90			
CTA_R9	>80			
SDCM_MacAdam	<3			
BEAM IMAGE	Single Shadow			
BEAM ANGLE_°	10°   30°			

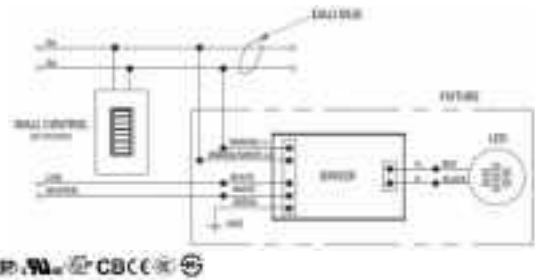


INNOVATION PROGRAM NANO TECHNOLOGY HYBRID LED PLASTER



OPTION	CODE
Back-Glowing light	G
Non Back-Glowing light	NG
OPTICAL ACCESSORY	CODE
Hex Cell Louver	L
UV-Filter	U
EMERGENCY KIT	CODE
Emergency + Battery pack 2h	E
ORDERING	CODE
RM1C-12-10-G-DA-G-L	

DRIVER COMPATIBILITY GUIDE



**DIMMING DRIVER WIRING SCHEMES ;**  
Note : Wiring diagrams are examples of typical installations intended to illustrate the number of wires that must be run to fixture. These diagrams are not intended to specify all equipment necessary for a given dimming circuit. Refer to specific dimmer manufacture's documentation for details.

Electronic 180~295Vac	D
DALI dimmable electronic 200~240Vac	DA
Electronic 0-10V Dimming 180~295Vac	DD



## ROME0\_22W

Nano Graphene coating cylinder body white painted and Plaster trim for plaster board. High emission warm white 3000K or neutral white (4000K) LED with Ra >90; R9 >80 on request.

Flood precision NANO Micro Pattern Lens available in polished faceted version or smooth matt finishing with clean beam image.

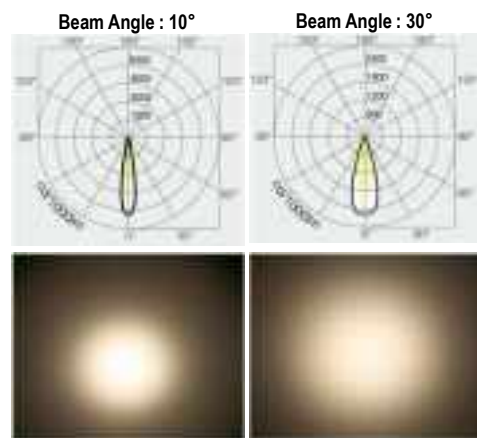
NANO Micro pattern lens technology.

The fixture is suitable for installations in workplaces (UGR<22). Ultra rapid tools free mounting system for false ceiling installation from 0 to 30mm. Passive dissipation system. Equipped with cable (600mm) and plug for easy and safe connection to the driver. To be completed with DRIVER COMPATIBILITY GUIDE, available in electronic, electronic DALI dimmable.

Emergency kit with 2h battery.



FIXTURE POWER	22W Non-Glowing		22.8W Back-Glowing	
KEVIN_CCT	3000K	4000K	3000K	4000K
EQUIVALENCE	CDM 39W			
FIXTURE FLUX_lm	900	1000	900	1000
BACK-GLOWING	NG_NON GLOWING		G_BACK GLOWING	
EFFICACY_lm/W	>42	>45	>42	>45
LUX@1m=22W CDM	>21,000_10°   > 3,000_30°			
CRI_Ra	>90			
CTA_R9	>80			
SDCM_MacAdam	<3			
BEAM IMAGE	Single Shadow			
BEAM ANGLE_°	10°   30°			

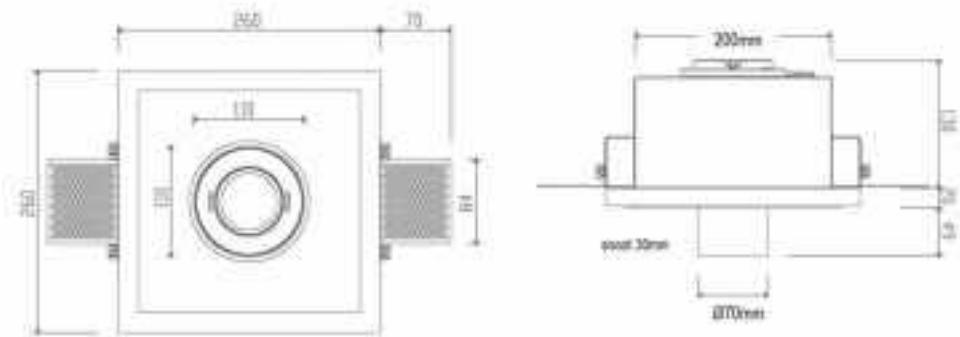


### INNOVATION PROGRAM

### NANO TECHNOLOGY

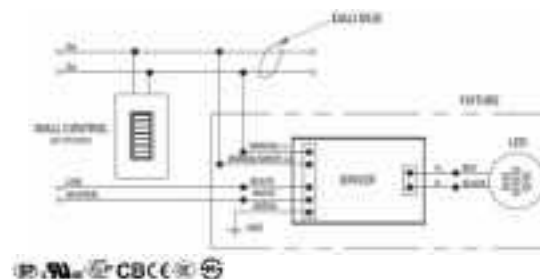
### HYBRID LED

### PLASTER



OPTION	CODE
Back-Glowing light	G
Non Back-Glowing light	NG
OPTICAL ACCESSORY	CODE
Hex Cell Louver	L
UV-Filter	U
EMERGENCY KIT	CODE
Emergency + Battery pack 2h	E
ORDERING	CODE
RM1C-22-10-G-DA-G-L	

### DRIVER COMPATIBILITY GUIDE



### DIMMING DRIVER WIRING SCHEMES ;

Note : Wiring diagrams are examples of typical installations intended to illustrate the number of wires that must be run to fixture. These diagrams are not intended to specify all equipment necessary for a given dimming circuit. Refer to specific dimmer manufacture's documentation for details.

Electronic 180~295Vac	D
DALI dimmable electronic 200~240Vac	DA
Electronic 0-10V Dimming 180~295Vac	DD



PTG's successful aSKa and aSKa Pro Range of architectural grade luminaires has now been expanded to encompass a wide selection of LED ceiling light modules embracing the latest technology available in the market place.

With PTG's new "GIMBAL-CARDAN Downlight" Warm Dim modules added to the already extensive programme of LED modules from MICRO CYLINDER Engine.

plus our own micro cylinder engine 12 and 22 modules we feel that we have the low energy solution to many applications, be it hospitality, luxury retail maison, commercial or residential.

LED technology is seriously challenging conventional light sources not only in lumen output and colour rendition but also in size and affordability finally allowing the lighting professional to design with green credentials.



MULTIDISCIPLINARY APPROACH



LOW TOTAL OPERATING COSTS



STRONG PARTNERSHIP



LIGHT QUALITY



LED LIGHTING EXPERIENCE



ENVIRONMENT



PROPRIETARY TECHNOLOGY AND INTELLECTUAL PROPERTY



EASE OF INSTALLATION



BEST OF BREED PRODUCTS



INNOVATIVE DESIGN



CTA\_R9 NANO TECHNOLOGY



NANO MATERIALS SCIENCE AND ANALYSIS



MICROINFORMATION SYSTEMS



ENERGY EFFICIENCY

# aSKa® | GIMBAL SINGLE CARDAN\_12W



## CIAN\_12W | trim(trimless)

Nano Graphene coating cylinder body white painted and trim for plaster ceiling board. High emission warm white 3000K or neutral white (4000K) LED with Ra >90; R9 >80 on request.

Flood precision NANO Micro Pattern Lens available in polished faceted version or smooth matt finishing with clean beam image.

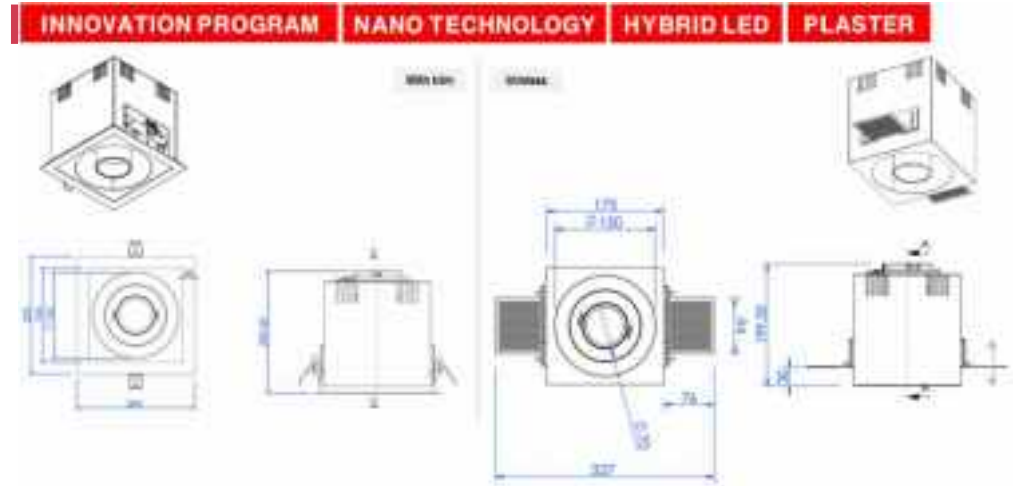
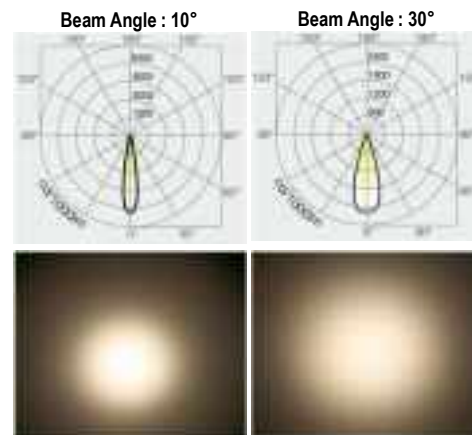
NANO Micro pattern lens technology.

The fixture is suitable for installations in workplaces (UGR<22). Ultra rapid tools free mounting system for false ceiling installation from 0 to 50mm. Passive dissipation system. Equipped with cable (600mm) and plug for easy and safe connection to the driver. To be completed with DRIVER COMPATIBILITY GUIDE, available in electronic, electronic DALI dimmable.

Emergency kit with 2h battery.

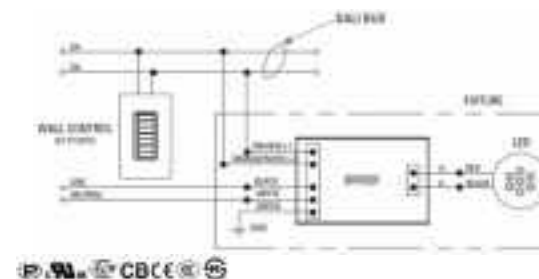


FIXTURE POWER	12W_trim(less)	
KEVIN_CCT	3000K	4000K
EQUIVALENCE	CDM 22W	
FIXTURE FLUX_lm	530	580
With flange(trim)	Trim   Trimless	
EFFICACY_lm/W	>45	>48
LUX@1m=22W CDM	>12,000_10°   >1,300_30°	
CRI_Ra	>95	
CTA_R9	>90	
SDCM_MacAdam	<3	
BEAM IMAGE	Single Shadow	
BEAM ANGLE_°	10°   30°	



OPTION	CODE
Trim-flange	T
Non Trim-flange	NT
OPTICAL ACCESSORY	CODE
Hex Cell Louver	L
UV-Filter	U
EMERGENCY KIT	CODE
Emergency + Battery pack 2h	E
ORDERING	CODE
CA1C-12-10-G-DA-G-L	

## DRIVER COMPATIBILITY GUIDE



## DIMMING DRIVER WIRING SCHEMES ;

Note : Wiring diagrams are examples of typical installations intended to illustrate the number of wires that must be run to fixture. These diagrams are not intended to specify all equipment necessary for a given dimming circuit. Refer to specific dimmer manufacturer's documentation for details.

Electronic 180~295Vac	D
DALI dimmable electronic 200~240Vac	DA
Electronic 0-10V Dimming 180~295Vac	DD





## CIAN\_24W I trim(trimless)

Nano Graphene coating cylinder body white painted and trim for plaster ceiling board. High emission warm white 3000K or neutral white (4000K) LED with Ra >90; R9 >80 on request.

Flood precision NANO Micro Pattern Lens available in polished faceted version or smooth matt finishing with clean beam image.

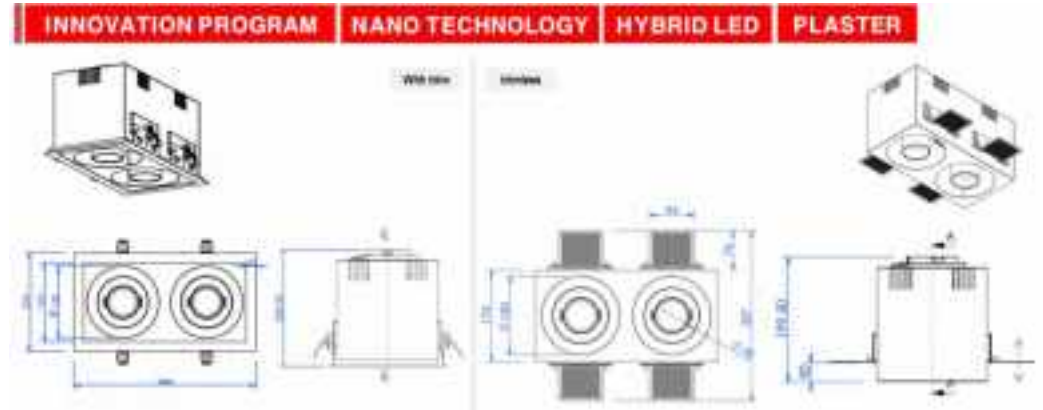
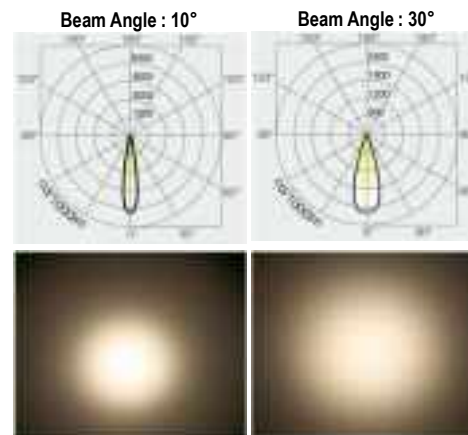
NANO Micro pattern lens technology.

The fixture is suitable for installations in workplaces (UGR<22). Ultra rapid tools free mounting system for false ceiling installation from 0 to 50mm. Passive dissipation system. Equipped with cable (600mm) and plug for easy and safe connection to the driver. To be completed with DRIVER COMPATIBILITY GUIDE, available in electronic, electronic DALI dimmable.

Emergency kit with 2h battery.

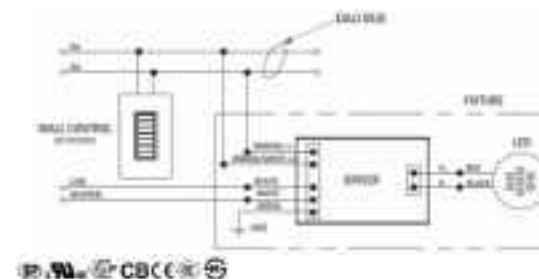


FIXTURE POWER	24W_trim(less)	
KEVIN_CCT	3000K	4000K
EQUIVALENCE	CDM 22W*2	
FIXTURE FLUX_lm	1060	1160
With flange(trim)	Trim I Trimless	
EFFICACY_lm/W	>45	>48
LUX@1m=22W CDM	>12,000_10°   >1,300_30°	
CRI_Ra	>95	
CTA_R9	>90	
SDCM_MacAdam	<3	
BEAM IMAGE	Single Shadow	
BEAM ANGLE_°	10°   30°	



OPTION	CODE
Trim-flange	T
Non Trim-flange	NT
OPTICAL ACCESSORY	CODE
Hex Cell Louver	L
UV-Filter	U
EMERGENCY KIT	CODE
Emergency + Battery pack 2h	E
ORDERING	CODE
CA1C-24-10-G-DA-G-L	

## DRIVER COMPATIBILITY GUIDE



## DIMMING DRIVER WIRING SCHEMES ;

Note : Wiring diagrams are examples of typical installations intended to illustrate the number of wires that must be run to fixture. These diagrams are not intended to specify all equipment necessary for a given dimming circuit. Refer to specific dimmer manufacturer's documentation for details.

Electronic 180~295Vac	D
DALI dimmable electronic 200~240Vac	DA
Electronic 0-10V Dimming 180~295Vac	DD



## CIAN\_36W I trim(trimless)

Nano Graphene coating cylinder body white painted and trim for plaster ceiling board. High emission warm white 3000K or neutral white (4000K) LED with Ra >90; R9 >80 on request.

Flood precision NANO Micro Pattern Lens available in polished faceted version or smooth matt finishing with clean beam image.

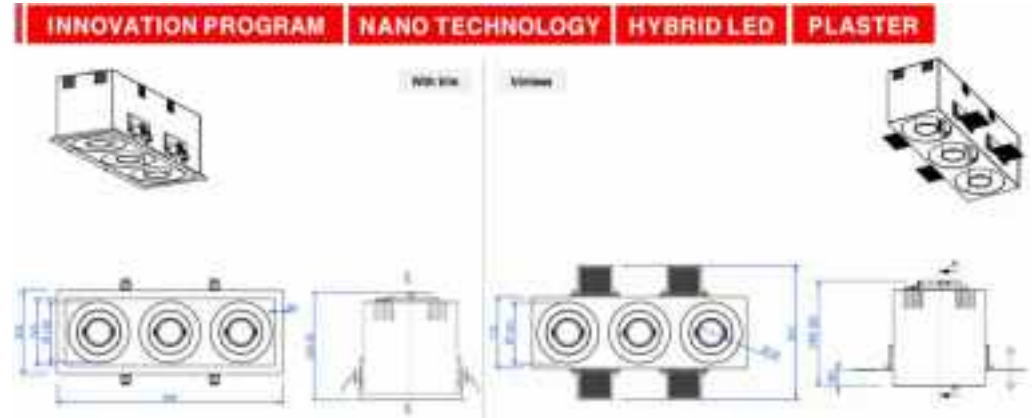
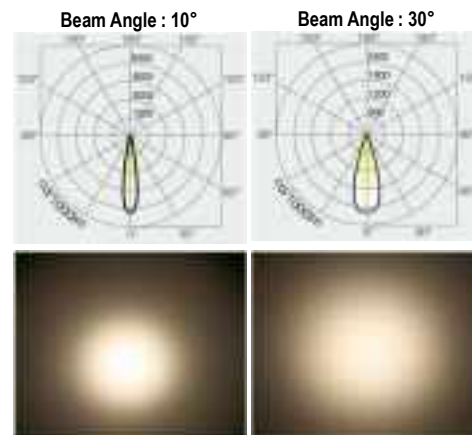
NANO Micro pattern lens technology.

The fixture is suitable for installations in workplaces (UGR<22). Ultra rapid tools free mounting system for false ceiling installation from 0 to 50mm. Passive dissipation system. Equipped with cable (600mm) and plug for easy and safe connection to the driver. To be completed with DRIVER COMPATIBILITY GUIDE, available in electronic, electronic DALI dimmable.

Emergency kit with 2h battery.

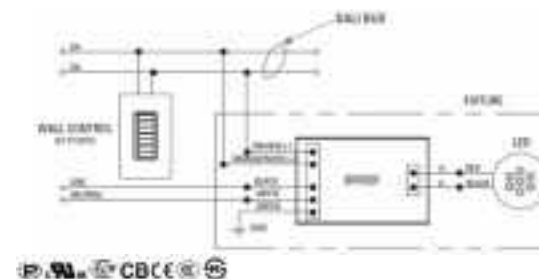


FIXTURE POWER	36W_trim(less)	
KEVIN_CCT	3000K	4000K
EQUIVALENCE	CDM 22W	
FIXTURE FLUX_lm	1590	1740
With flange(trim)	Trim I Trimless	
EFFICACY_lm/W	>45	>48
LUX@1m=22W CDM	>12,000_10°   >1,300_30°	
CRI_Ra	>95	
CTA_R9	>90	
SDCM_MacAdam	<3	
BEAM IMAGE	Single Shadow	
BEAM ANGLE_°	10°   30°	



OPTION	CODE
Trim-flange	T
Non Trim-flange	NT
OPTICAL ACCESSORY	CODE
Hex Cell Louver	L
UV-Filter	U
EMERGENCY KIT	CODE
Emergency + Battery pack 2h	E
ORDERING	CODE
CA1C-36-10-G-DA-G-L	

## DRIVER COMPATIBILITY GUIDE



## DIMMING DRIVER WIRING SCHEMES ;

Note : Wiring diagrams are examples of typical installations intended to illustrate the number of wires that must be run to fixture. These diagrams are not intended to specify all equipment necessary for a given dimming circuit. Refer to specific dimmer manufacture's documentation for details.

Electronic 180~295Vac	D
DALI dimmable electronic 200~240Vac	DA
Electronic 0-10V Dimming 180~295Vac	DD

# aSKa® | GIMBAL SINGLE CARDAN\_22W



## CIAN\_22W | trim(trimless)

Nano Graphene coating cylinder body white painted and trim for plaster ceiling board. High emission warm white 3000K or neutral white (4000K) LED with Ra >90; R9 >80 on request.

Flood precision NANO Micro Pattern Lens available in polished faceted version or smooth matt finishing with clean beam image.

NANO Micro pattern lens technology.

The fixture is suitable for installations in workplaces (UGR<22). Ultra rapid tools free mounting system for false ceiling installation from 0 to 50mm. Passive dissipation system. Equipped with cable (600mm) and plug for easy and safe connection to the driver. To be completed with DRIVER COMPATIBILITY GUIDE, available in electronic, electronic DALI dimmable.

Emergency kit with 2h battery.



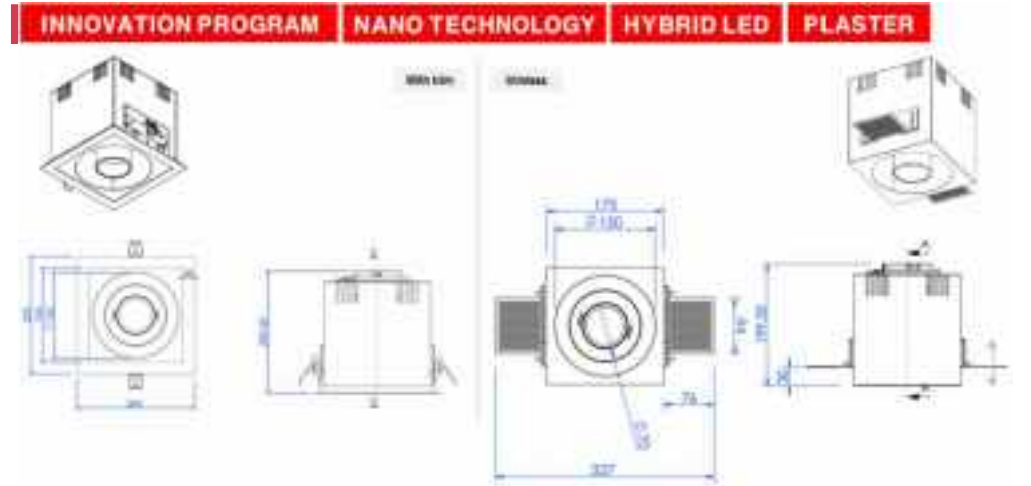
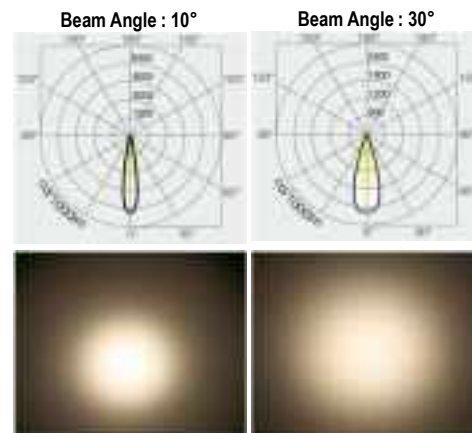
Trim



Trimless

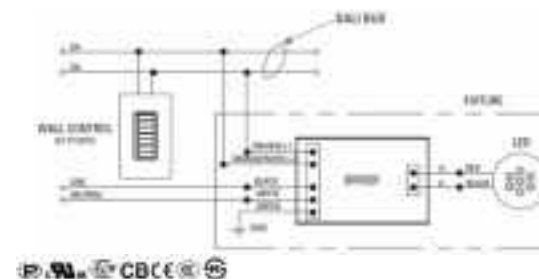


FIXTURE POWER	22W_trim(less)	
KEVIN_CCT	3000K	4000K
EQUIVALENCE	CDM 39W	
FIXTURE FLUX_lm	900	1000
With flange(trim)	Trim   Trimless	
EFFICACY_lm/W	>42	>45
LUX@1m=22W CDM	>21,000_10°   >3,000_30°	
CRI_Ra	>90	
CTA_R9	>80	
SDCM_MacAdam	<3	
BEAM IMAGE	Single Shadow	
BEAM ANGLE_°	10°   30°	



OPTION	CODE
Trim-flange	T
Non Trim-flange	NT
OPTICAL ACCESSORY	CODE
Hex Cell Louver	L
UV-Filter	U
EMERGENCY KIT	CODE
Emergency + Battery pack 2h	E
ORDERING	CODE
CA1C-22-10-G-DA-G-L	

## DRIVER COMPATIBILITY GUIDE



## DIMMING DRIVER WIRING SCHEMES ;

Note : Wiring diagrams are examples of typical installations intended to illustrate the number of wires that must be run to fixture. These diagrams are not intended to specify all equipment necessary for a given dimming circuit. Refer to specific dimmer manufacture's documentation for details.

Electronic 180~295Vac	D
DALI dimmable electronic 200~240Vac	DA
Electronic 0-10V Dimming 180~295Vac	DD





CIAN\_44W I trim(trimless)

Nano Graphene coating cylinder body white painted and trim for plaster ceiling board. High emission warm white 3000K or neutral white (4000K) LED with Ra >90; R9 >80 on request.

Flood precision NANO Micro Pattern Lens available in polished faceted version or smooth matt finishing with clean beam image.

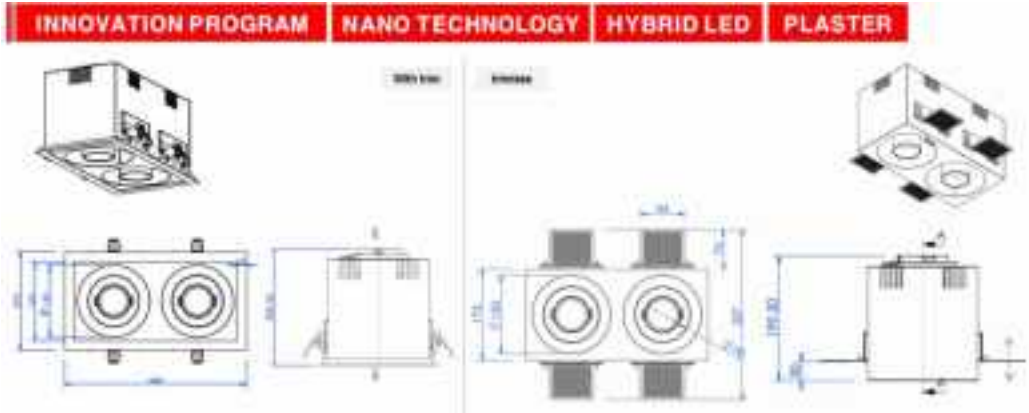
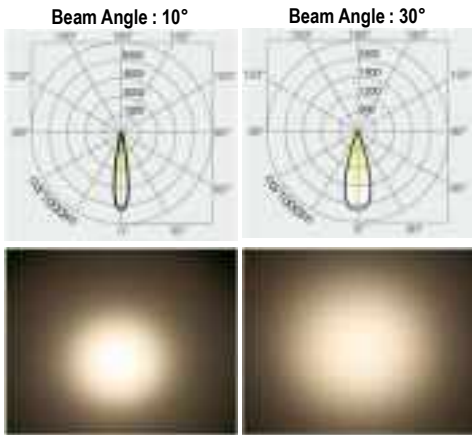
NANO Micro pattern lens technology.

The fixture is suitable for installations in workplaces (UGR<22). Ultra rapid tools free mounting system for false ceiling installation from 0 to 50mm. Passive dissipation system. Equipped with cable (600mm) and plug for easy and safe connection to the driver. To be completed with DRIVER COMPATIBILITY GUIDE, available in electronic, electronic DALI dimmable.

Emergency kit with 2h battery.

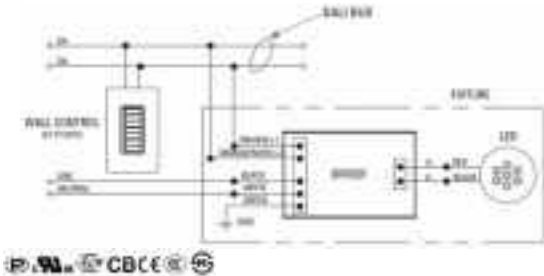


FIXTURE POWER	44W_trim(less)	
KEVIN_CCT	3000K	4000K
EQUIVALENCE	CDM 39W*2	
FIXTURE FLUX_lm	1800	2000
With flange(trim)	Trim I Trimless	
EFFICACY_lm/W	>42	>45
LUX@1m=22W CDM	>21,000_10°   >3,000_30°	
CRI_Ra	>90	
CTA_R9	>80	
SDCM_MacAdam	<3	
BEAM IMAGE	Single Shadow	
BEAM ANGLE_°	10°   30°	



OPTION	CODE
Trim-flange	T
Non Trim-flange	NT
OPTICAL ACCESSORY	CODE
Hex Cell Louver	L
UV-Filter	U
EMERGENCY KIT	CODE
Emergency + Battery pack 2h	E
ORDERING	CODE
CA1C-44-10-G-DA-G-L	

DRIVER COMPATIBILITY GUIDE



**DIMMING DRIVER WIRING SCHEMES ;**  
Note : Wiring diagrams are examples of typical installations intended to illustrate the number of wires that must be run to fixture. These diagrams are not intended to specify all equipment necessary for a given dimming circuit. Refer to specific dimmer manufacture's documentation for details.

Electronic 180~295Vac	D
DALI dimmable electronic 200~240Vac	DA
Electronic 0-10V Dimming 180~295Vac	DD



## CIAN\_66W | trim(trimless)

Nano Graphene coating cylinder body white painted and trim for plaster ceiling board. High emission warm white 3000K or neutral white (4000K) LED with Ra >90; R9 >80 on request.

Flood precision NANO Micro Pattern Lens available in polished faceted version or smooth matt finishing with clean beam image.

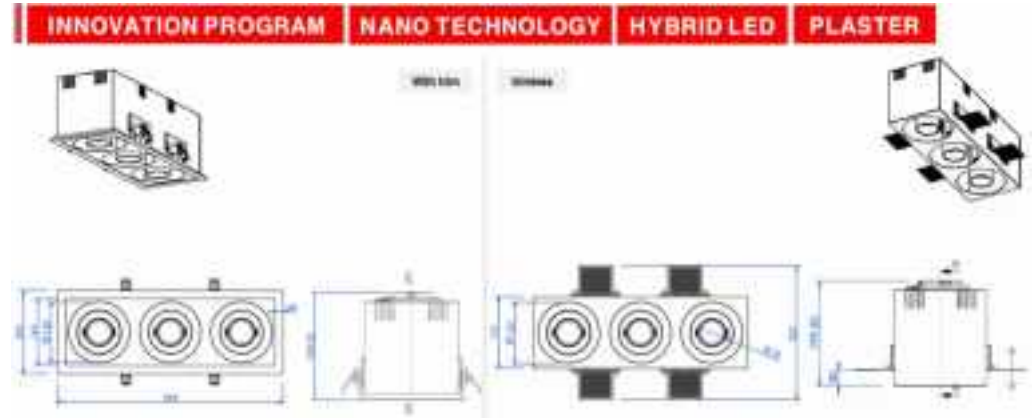
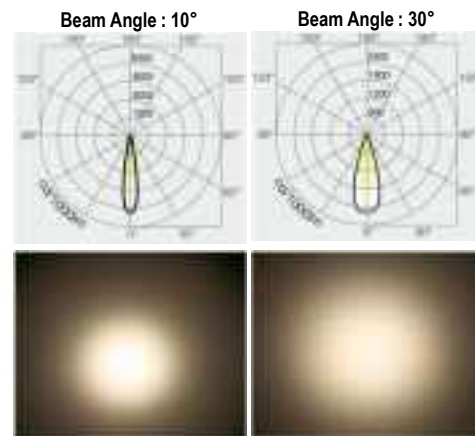
NANO Micro pattern lens technology.

The fixture is suitable for installations in workplaces (UGR<22). Ultra rapid tools free mounting system for false ceiling installation from 0 to 50mm. Passive dissipation system. Equipped with cable (600mm) and plug for easy and safe connection to the driver. To be completed with DRIVER COMPATIBILITY GUIDE, available in electronic, electronic DALI dimmable.

Emergency kit with 2h battery.

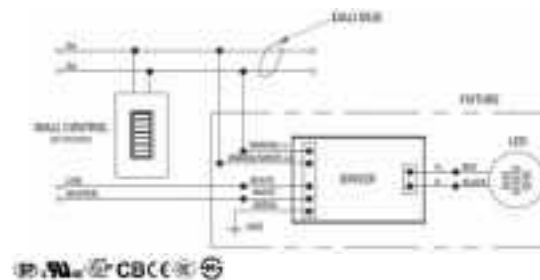


FIXTURE POWER	66W_trim(less)	
KEVIN_CCT	3000K	4000K
EQUIVALENCE	CDM 39W*3	
FIXTURE FLUX_lm	2700	3000
With flange(trim)	Trim   Trimless	
EFFICACY_lm/W	>42	>45
LUX@1m=22W CDM	>21,000_10°   >3,000_30°	
CRI_Ra	>90	
CTA_R9	>80	
SDCM_MacAdam	<3	
BEAM IMAGE	Single Shadow	
BEAM ANGLE_°	10°   30°	



OPTION	CODE
Trim-flange	T
Non Trim-flange	NT
OPTICAL ACCESSORY	CODE
Hex Cell Louver	L
UV-Filter	U
EMERGENCY KIT	CODE
Emergency + Battery pack 2h	E
ORDERING	CODE
CA1C-66-10-G-DA-G-L	

## DRIVER COMPATIBILITY GUIDE



## DIMMING DRIVER WIRING SCHEMES ;

Note : Wiring diagrams are examples of typical installations intended to illustrate the number of wires that must be run to fixture. These diagrams are not intended to specify all equipment necessary for a given dimming circuit. Refer to specific dimmer manufacturer's documentation for details.

Electronic 180~295Vac	D
DALI dimmable electronic 200~240Vac	DA
Electronic 0-10V Dimming 180~295Vac	DD



PTG's successful aSKa and aSKa Pro Range of architectural grade luminaires has now been expanded to encompass a wide selection of LED ceiling light modules embracing the latest technology available in the market place.

With PTG's new "EYEBALL-CARDAN Downlight" Warm Dim modules added to the already extensive programme of LED modules from MICRO CYLINDER Engine.

plus our own micro cylinder engine 12 and 22 modules we feel that we have the low energy solution to many applications, be it hospitality, luxury retail maison, commercial or residential.

LED technology is seriously challenging conventional light sources not only in lumen output and colour rendition but also in size and affordability finally allowing the lighting professional to design with green credentials.



MULTIDISCIPLINARY APPROACH



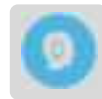
LOW TOTAL OPERATING COSTS



STRONG PARTNERSHIP



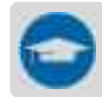
LIGHT QUALITY



LED LIGHTING EXPERIENCE



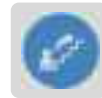
ENVIRONMENT



PROPRIETARY TECHNOLOGY AND INTELLECTUAL PROPERTY



EASE OF INSTALLATION



BEST OF BREED PRODUCTS



INNOVATIVE DESIGN



CTA\_R9 NANO TECHNOLOGY



NANO MATERIALS SCIENCE AND ANALYSIS



MICROINFORMATION SYSTEMS



ENERGY EFFICIENCY



# aSKa® | EYEBALL SINGLE DOWNLIGHT\_12W



## RUCA-12W\_trim(trimless)

Nano Graphene coating cylinder body white painted and trim for plaster ceiling board. High emission warm white 3000K or neutral white (4000K) LED with Ra >90; R9 >80 on request.

Flood precision NANO Micro Pattern Lens available in polished faceted version or smooth matt finishing with clean beam image.

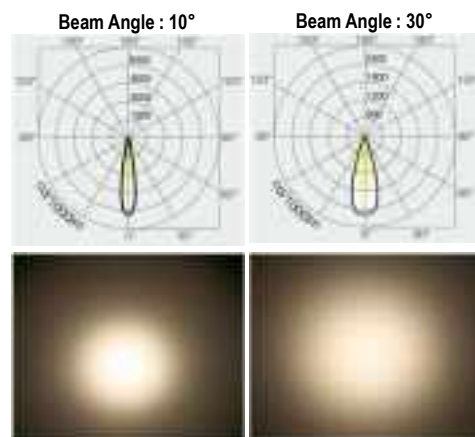
NANO Micro pattern lens technology.

The fixture is suitable for installations in workplaces (UGR<22). Ultra rapid tools free mounting system for false ceiling installation from 0 to 30mm. Passive dissipation system. Equipped with cable (600mm) and plug for easy and safe connection to the driver. To be completed with DRIVER COMPATIBILITY GUIDE, available in electronic, electronic DALI dimmable.

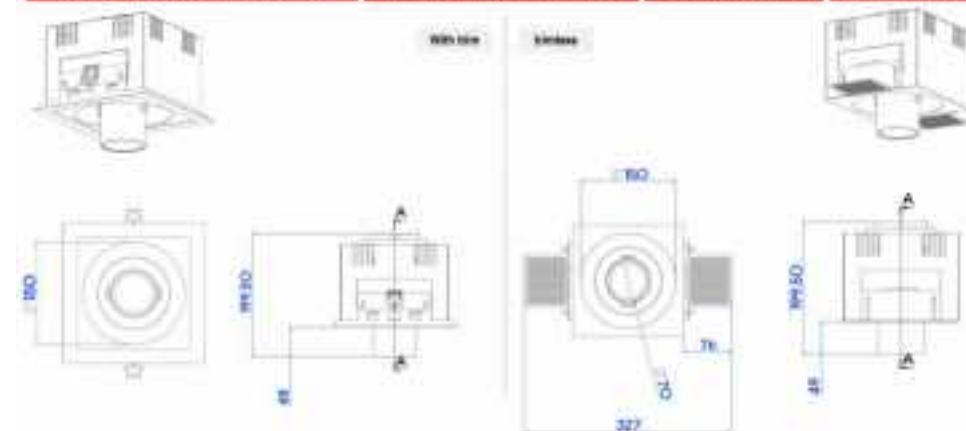
Emergency kit with 2h battery.



FIXTURE POWER	12W_trim(less)	
KEVIN_CCT	3000K	4000K
EQUIVALENCE	CDM 22W	
FIXTURE FLUX_lm	530	580
With flange(trim)	Trim   Trimless	
EFFICACY_lm/W	>45	>48
LUX@1m=22W CDM	>12,000_10°   >1,300_30°	
CRI_Ra	>90	
CTA_R9	>80	
SDCM_MacAdam	<3	
BEAM IMAGE	Single Shadow	
BEAM ANGLE_°	10°   30°	

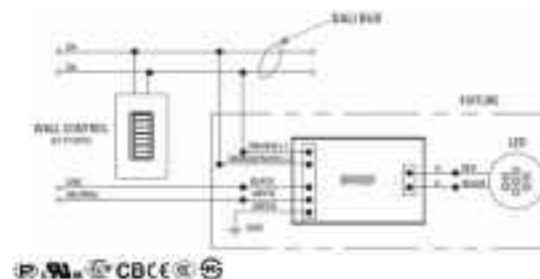


## INNOVATION PROGRAM NANO TECHNOLOGY HYBRID LED PLASTER



OPTION	CODE
Trim-flange	T
Non Trim-flange	NT
OPTICAL ACCESSORY	CODE
Hex Cell Louver	L
UV-Filter	U
EMERGENCY KIT	CODE
Emergency + Battery pack 2h	E
ORDERING	CODE
RC1C-12-10-G-DA-G-L	

## DRIVER COMPATIBILITY GUIDE



## DIMMING DRIVER WIRING SCHEMES ;

Note : Wiring diagrams are examples of typical installations intended to illustrate the number of wires that must be run to fixture. These diagrams are not intended to specify all equipment necessary for a given dimming circuit. Refer to specific dimmer manufacturer's documentation for details.

Electronic 180~295Vac	D
DALI dimmable electronic 200~240Vac	DA
Electronic 0-10V Dimming 180~295Vac	DD

# aSKa® | EYEBALL DUO DOWNLIGHT\_24W



## RUCA- 24W\_trim(trimless)

Nano Graphene coating cylinder body white painted and trim for plaster ceiling board. High emission warm white 3000K or neutral white (4000K) LED with Ra >90; R9 >80 on request.

Flood precision NANO Micro Pattern Lens available in polished faceted version or smooth matt finishing with clean beam image.

NANO Micro pattern lens technology.

The fixture is suitable for installations in workplaces (UGR<22). Ultra rapid tools free mounting system for false ceiling installation from 0 to 30mm. Passive dissipation system. Equipped with cable (600mm) and plug for easy and safe connection to the driver. To be completed with DRIVER COMPATIBILITY GUIDE, available in electronic, electronic DALI dimmable.

Emergency kit with 2h battery.



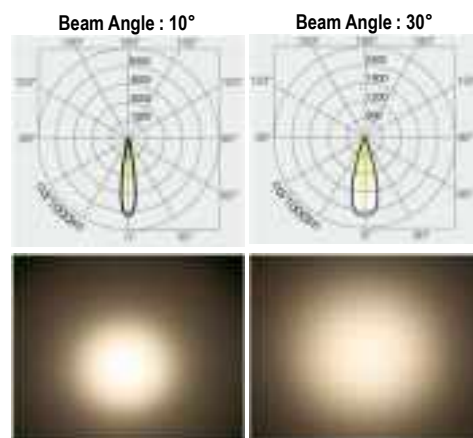
Trim



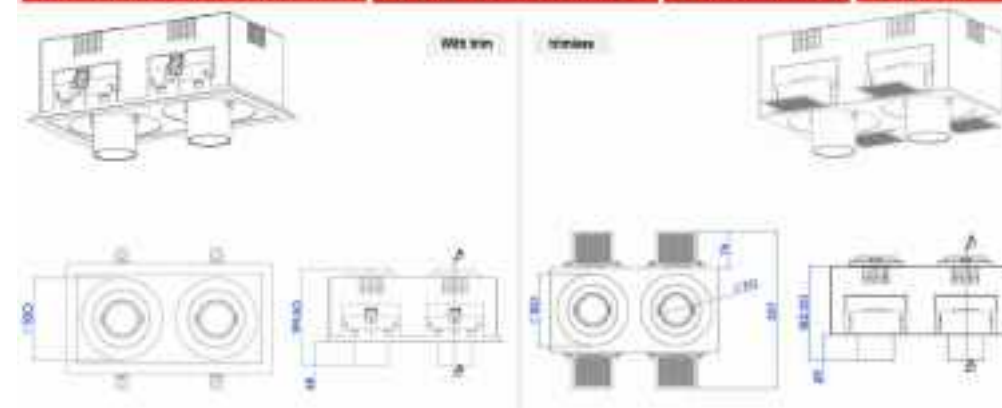
Trimless



FIXTURE POWER	24W_trim(less)	
KEVIN_CCT	3000K	4000K
EQUIVALENCE	CDM 22W*2	
FIXTURE FLUX_lm	1060	1160
With flange(trim)	Trim   Trimless	
EFFICACY_lm/W	>45	>48
LUX@1m=22W CDM	>12,000_10°   >1,300_30°	
CRI_Ra	>90	
CTA_R9	>80	
SDCM_MacAdam	<3	
BEAM IMAGE	Single Shadow	
BEAM ANGLE_°	10°   30°	

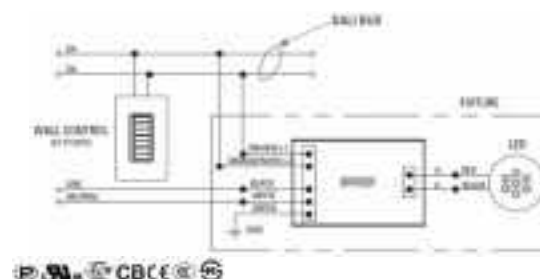


## INNOVATION PROGRAM NANO TECHNOLOGY HYBRID LED PLASTER



OPTION	CODE
Trim-flange	T
Non Trim-flange	NT
OPTICAL ACCESSORY	CODE
Hex Cell Louver	L
UV-Filter	U
EMERGENCY KIT	CODE
Emergency + Battery pack 2h	E
ORDERING	CODE
RC1C-24-10-G-DA-G-L	

## DRIVER COMPATIBILITY GUIDE



## DIMMING DRIVER WIRING SCHEMES ;

Note : Wiring diagrams are examples of typical installations intended to illustrate the number of wires that must be run to fixture. These diagrams are not intended to specify all equipment necessary for a given dimming circuit. Refer to specific dimmer manufacture's documentation for details.

Electronic 180~295Vac	D
DALI dimmable electronic 200~240Vac	DA
Electronic 0-10V Dimming 180~295Vac	DD

# aSKa® | EYEBALL TRIO DOWNLIGHT\_36W



## RUCA-36W\_trim(trimless)

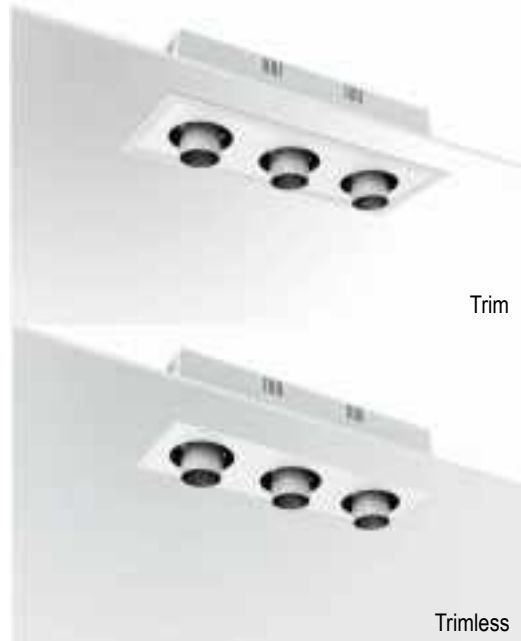
Nano Graphene coating cylinder body white painted and trim for plaster ceiling board. High emission warm white 3000K or neutral white (4000K) LED with Ra >90; R9 >80 on request.

Flood precision NANO Micro Pattern Lens available in polished faceted version or smooth matt finishing with clean beam image.

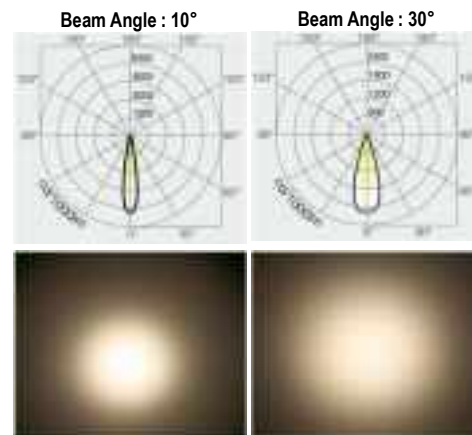
NANO Micro pattern lens technology.

The fixture is suitable for installations in workplaces (UGR<22). Ultra rapid tools free mounting system for false ceiling installation from 0 to 30mm. Passive dissipation system. Equipped with cable (600mm) and plug for easy and safe connection to the driver. To be completed with DRIVER COMPATIBILITY GUIDE, available in electronic, electronic DALI dimmable.

Emergency kit with 2h battery.



FIXTURE POWER	36W_trim(trimless)	
KEVIN_CCT	3000K	4000K
EQUIVALENCE	CDM 22W*3	
FIXTURE FLUX_lm	1590	1740
With flange(trim)	Trim   Trimless	
EFFICACY_lm/W	>45	>48
LUX@1m=22W CDM	>12,000_10°   >1,300_30°	
CRI_Ra	>90	
CTA_R9	>80	
SDCM_MacAdam	<3	
BEAM IMAGE	Single Shadow	
BEAM ANGLE_°	10°   30°	



INNOVATION PROGRAM

NANO TECHNOLOGY

HYBRID LED

PLASTER

With trim

Trimless

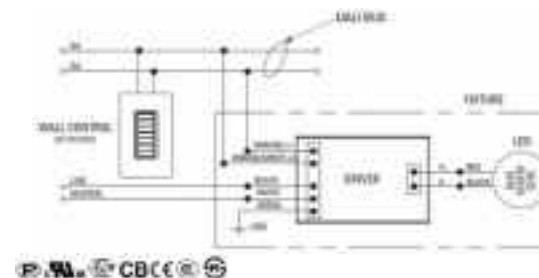
OPTION	CODE
Trim-flange	T
Non Trim-flange	NT

OPTICAL ACCESSORY	CODE
Hex Cell Louver	L
UV-Filter	U

EMERGENCY KIT	CODE
Emergency + Battery pack 2h	E

ORDERING	CODE
RC1C-36-10-G-DA-G-L	

## DRIVER COMPATIBILITY GUIDE



## DIMMING DRIVER WIRING SCHEMES ;

Note : Wiring diagrams are examples of typical installations intended to illustrate the number of wires that must be run to fixture. These diagrams are not intended to specify all equipment necessary for a given dimming circuit. Refer to specific dimmer manufacturer's documentation for details.

Electronic 180~295Vac	D
DALI dimmable electronic 200~240Vac	DA
Electronic 0-10V Dimming 180~295Vac	DD



# aSKa® | EYEBALL SINGLE DOWNLIGHT\_22W



## RUNO-22W\_trim(trimless)

Nano Graphene coating cylinder body white painted and trim for plaster ceiling board. High emission warm white 3000K or neutral white (4000K) LED with Ra >90; R9 >80 on request.

Flood precision NANO Micro Pattern Lens available in polished faceted version or smooth matt finishing with clean beam image.

NANO Micro pattern lens technology.

The fixture is suitable for installations in workplaces (UGR<22). Ultra rapid tools free mounting system for false ceiling installation from 0 to 30mm. Passive dissipation system. Equipped with cable (600mm) and plug for easy and safe connection to the driver. To be completed with DRIVER COMPATIBILITY GUIDE, available in electronic, electronic DALI dimmable.

Emergency kit with 2h battery.

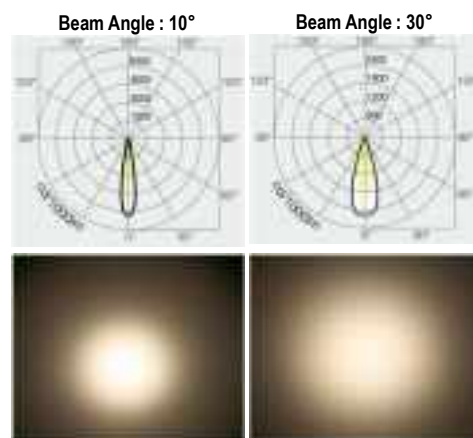


Trim

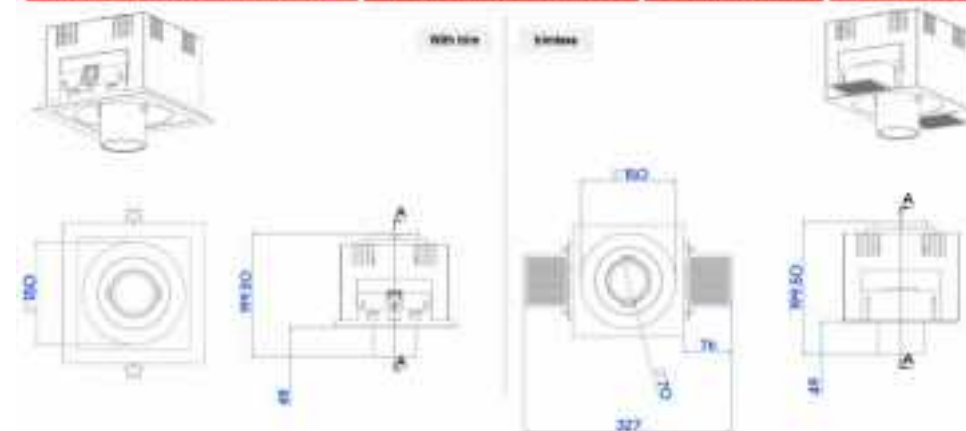


Trimless

FIXTURE POWER	22W_trim(less)	
KEVIN_CCT	3000K	4000K
EQUIVALENCE	CDM 39W	
FIXTURE FLUX_lm	900	1000
With flange(trim)	Trim   Trimless	
EFFICACY_lm/W	>42	>45
LUX@1m=22W CDM	>21,000_10°   >3,000_30°	
CRI_Ra	>90	
CTA_R9	>80	
SDCM_MacAdam	<3	
BEAM IMAGE	Single Shadow	
BEAM ANGLE_°	10°   30°	

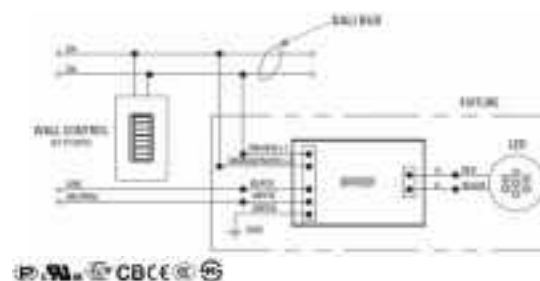


## INNOVATION PROGRAM NANO TECHNOLOGY HYBRID LED PLASTER



OPTION	CODE
Trim-flange	T
Non Trim-flange	NT
OPTICAL ACCESSORY	CODE
Hex Cell Louver	L
UV-Filter	U
EMERGENCY KIT	CODE
Emergency + Battery pack 2h	E
ORDERING	CODE
RN1C-22-10-G-DA-G-L	

## DRIVER COMPATIBILITY GUIDE



## DIMMING DRIVER WIRING SCHEMES ;

Note : Wiring diagrams are examples of typical installations intended to illustrate the number of wires that must be run to fixture. These diagrams are not intended to specify all equipment necessary for a given dimming circuit. Refer to specific dimmer manufacturer's documentation for details.

Electronic 180~295Vac	D
DALI dimmable electronic 200~240Vac	DA
Electronic 0-10V Dimming 180~295Vac	DD

# aSKa® | EYEBALL DUO DOWNLIGHT\_44W



## RUNO-44W\_trim(trimless)

Nano Graphene coating cylinder body white painted and trim for plaster ceiling board. High emission warm white 3000K or neutral white (4000K) LED with Ra >90; R9 >80 on request.

Flood precision NANO Micro Pattern Lens available in polished faceted version or smooth matt finishing with clean beam image.

NANO Micro pattern lens technology.

The fixture is suitable for installations in workplaces (UGR<22). Ultra rapid tools free mounting system for false ceiling installation from 0 to 30mm. Passive dissipation system. Equipped with cable (600mm) and plug for easy and safe connection to the driver. To be completed with DRIVER COMPATIBILITY GUIDE, available in electronic, electronic DALI dimmable.

Emergency kit with 2h battery.



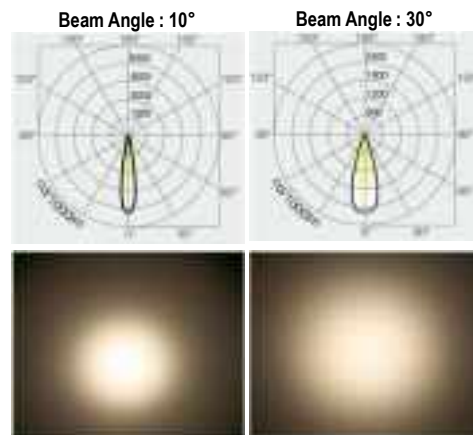
Trim



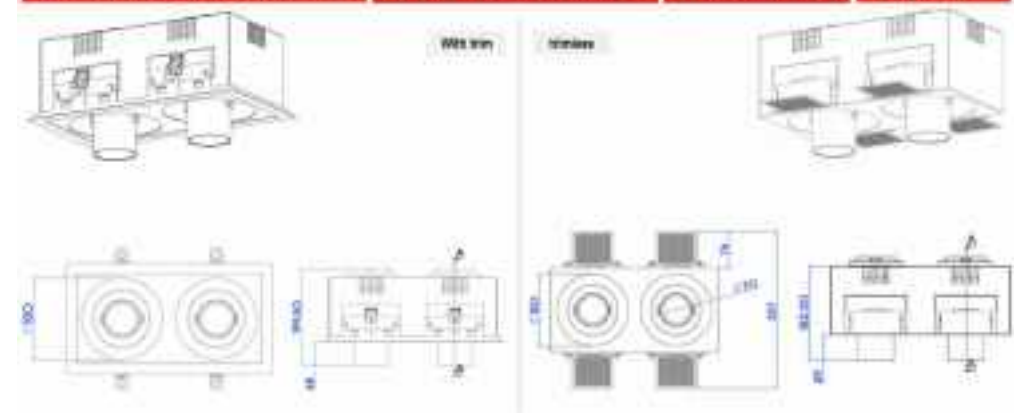
Trimless



FIXTURE POWER	44W_trim(less)	
KEVIN_CCT	3000K	4000K
EQUIVALENCE	CDM 39W*2	
FIXTURE FLUX_lm	1800	2000
With flange(trim)	Trim   Trimless	
EFFICACY_lm/W	>42	>45
LUX@1m=22W CDM	>21,000_10°   >3,000_30°	
CRI_Ra	>90	
CTA_R9	>80	
SDCM_MacAdam	<3	
BEAM IMAGE	Single Shadow	
BEAM ANGLE_°	10°   30°	

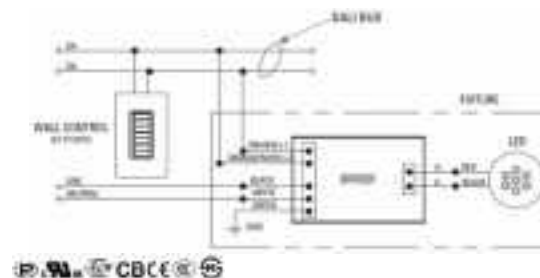


## INNOVATION PROGRAM NANO TECHNOLOGY HYBRID LED PLASTER



OPTION	CODE
Trim-flange	T
Non Trim-flange	NT
OPTICAL ACCESSORY	CODE
Hex Cell Louver	L
UV-Filter	U
EMERGENCY KIT	CODE
Emergency + Battery pack 2h	E
ORDERING	CODE
RN1C-44-10-G-DA-G-L	

## DRIVER COMPATIBILITY GUIDE



## DIMMING DRIVER WIRING SCHEMES ;

Note : Wiring diagrams are examples of typical installations intended to illustrate the number of wires that must be run to fixture. These diagrams are not intended to specify all equipment necessary for a given dimming circuit. Refer to specific dimmer manufacture's documentation for details.

Electronic 180~295Vac	D
DALI dimmable electronic 200~240Vac	DA
Electronic 0-10V Dimming 180~295Vac	DD



## RUNO-66W\_trim(trimless)

Nano Graphene coating cylinder body white painted and trim for plaster ceiling board. High emission warm white 3000K or neutral white (4000K) LED with Ra >90; R9 >80 on request.

Flood precision NANO Micro Pattern Lens available in polished faceted version or smooth matt finishing with clean beam image.

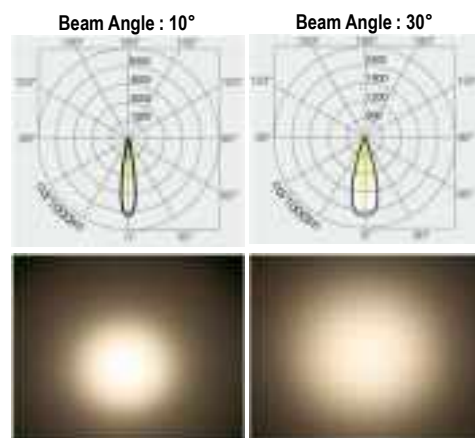
NANO Micro pattern lens technology.

The fixture is suitable for installations in workplaces (UGR<22). Ultra rapid tools free mounting system for false ceiling installation from 0 to 30mm. Passive dissipation system. Equipped with cable (600mm) and plug for easy and safe connection to the driver. To be completed with DRIVER COMPATIBILITY GUIDE, available in electronic, electronic DALI dimmable.

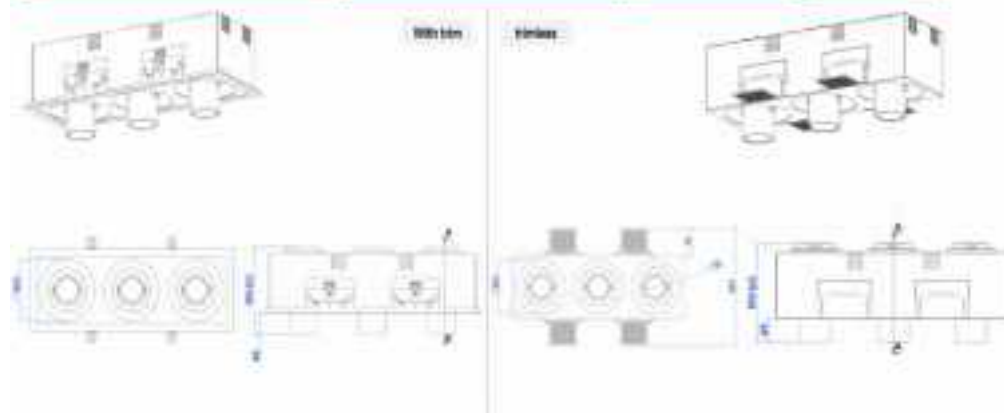
Emergency kit with 2h battery.



FIXTURE POWER	66W_trim(less)	
KEVIN_CCT	3000K	4000K
EQUIVALENCE	CDM 39W*3	
FIXTURE FLUX_lm	2700	3000
With flange(trim)	Trim   Trimless	
EFFICACY_lm/W	>42	>45
LUX@1m=22W CDM	>21,000_10°   >3,000_30°	
CRI_Ra	>90	
CTA_R9	>80	
SDCM_MacAdam	<3	
BEAM IMAGE	Single Shadow	
BEAM ANGLE_°	10°   30°	

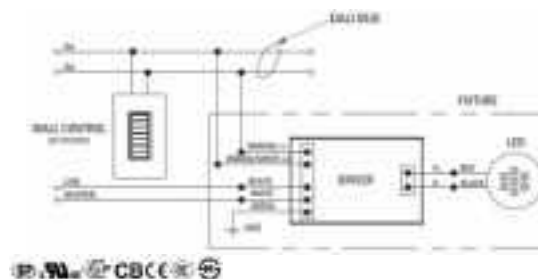


## INNOVATION PROGRAM NANO TECHNOLOGY HYBRID LED PLASTER



OPTION	CODE
<input type="checkbox"/> Trim-flange	T
<input type="checkbox"/> Non Trim-flange	NT
OPTICAL ACCESSORY	CODE
<input type="checkbox"/> Hex Cell Louver	L
<input type="checkbox"/> UV-Filter	U
EMERGENCY KIT	CODE
Emergency + Battery pack 2h	E
ORDERING	CODE
RN1C-66-10-G-DA-G-L	

## DRIVER COMPATIBILITY GUIDE



## DIMMING DRIVER WIRING SCHEMES ;

Note : Wiring diagrams are examples of typical installations intended to illustrate the number of wires that must be run to fixture. These diagrams are not intended to specify all equipment necessary for a given dimming circuit. Refer to specific dimmer manufacturer's documentation for details.

Electronic 180~295Vac	D
DALI dimmable electronic 200~240Vac	DA
Electronic 0-10V Dimming 180~295Vac	DD





PTG's successful aSKa and aSKa Pro Range of architectural grade luminaires has now been expanded to encompass a wide selection of LED ceiling light modules embracing the latest technology available in the market place.

With PTG's new "RECESSED ADJUSTABLE Downlight" Warm Dim modules added to the already extensive programme of LED modules from MICRO CYLINDER Engine.

plus our own micro cylinder engine 12 and 22 modules we feel that we have the low energy solution to many applications, be it hospitality, luxury retail maison, commercial or residential.

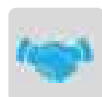
LED technology is seriously challenging conventional light sources not only in lumen output and colour rendition but also in size and affordability finally allowing the lighting professional to design with green credentials.



MULTIDISCIPLINARY APPROACH



LOW TOTAL OPERATING COSTS



STRONG PARTNERSHIP



LIGHT QUALITY



LED LIGHTING EXPERIENCE



ENVIRONMENT



PROPRIETARY TECHNOLOGY AND INTELLECTUAL PROPERTY



EASE OF INSTALLATION



BEST OF BREED PRODUCTS



INNOVATIVE DESIGN



CTA\_R9 NANO TECHNOLOGY



NANO MATERIALS SCIENCE AND ANALYSIS



MICROINFORMATION SYSTEMS



ENERGY EFFICIENCY

# aSka® | RECESSED ADJUSTABLE DOWNLIGHT



## TIVOLY-12W\_trim(trimless)

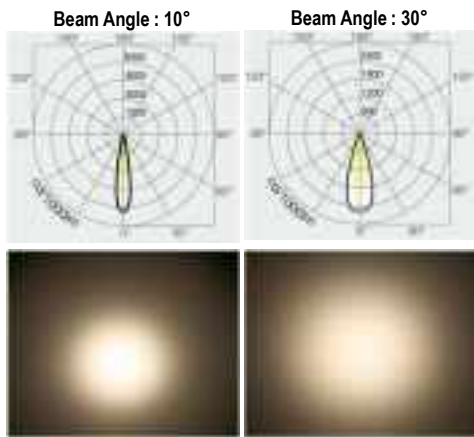
Recessed Adjustable Downlight luminaire for indoor application.

Self-extinguishing ceramic or engineering AL. lamp holders with double slide-pole, 350°+ spin plate, transparent electric wires with AWG insulation.

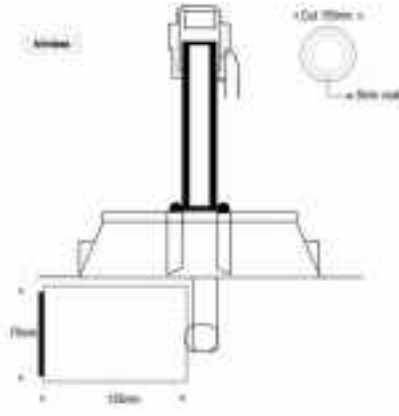
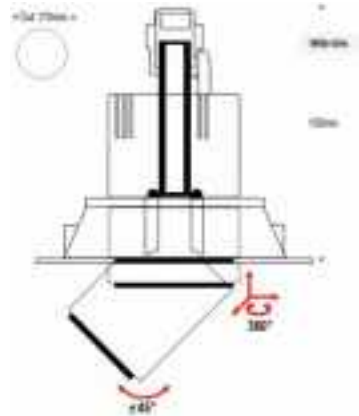
Aluminum Die-cast body with powder coat finish, 0°-30° lockable tilt aiming structure, Retractable mechanism for up to 0-90° pulldown of cylinder lamp, black thermo-Graphene coating and NANO Micro pattern Lens with Hex comb and UV filter lighting-support cover. Die-cast aluminum alloy body, cover and adjustable lamp support.



FIXTURE POWER	12W_trim(trimless)	
KEVIN_CCT	3000K	4000K
EQUIVALENCE	CDM 22W	
FIXTURE FLUX_lm	530	580
With flange(trim)	Trim   Trimless	
EFFICACY_lm/W	>45	>48
LUX@1m=22W CDM	>12,000_10°   >1,300_30°	
CRI_Ra	>90	
CTA_R9	>80	
SDCM_MacAdam	<3	
BEAM IMAGE	Single Shadow	
BEAM ANGLE_°	10°   30°	

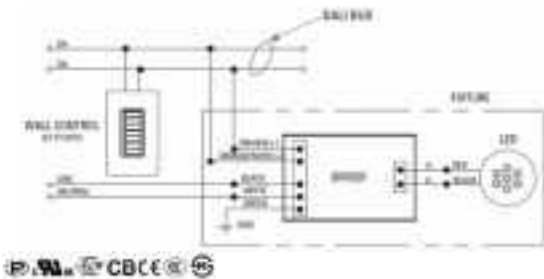


### INNOVATION PROGRAM   NANO TECHNOLOGY   HYBRID LED   MULTI TILT



OPTION		CODE
	Trim-flange	T
	Non Trim-flange	NT
OPTICAL ACCESSORY		CODE
	Hex Cell Louver	L
	UV-Filter	U
EMERGENCY KIT		CODE
Emergency + Battery pack 2h		E
ORDERING		CODE
TV1C-12-10-G-DA-G-L		

### DRIVER COMPATIBILITY GUIDE



### DIMMING DRIVER WIRING SCHEMES ;

Note : Wiring diagrams are examples of typical installations intended to illustrate the number of wires that must be run to fixture. These diagrams are not intended to specify all equipment necessary for a given dimming circuit. Refer to specific dimmer manufacture's documentation for details.

Electronic 180~295Vac	D
DALI dimmable electronic 200~240Vac	DA
Electronic 0-10V Dimming 180~295Vac	DD

# aSKa® | RECESSED ADJUSTABLE DOWNLIGHT



## TIVOLY- 24W\_trim(trimless)

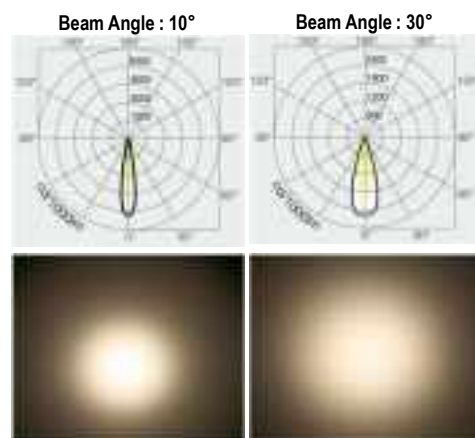
Recessed Adjustable Downlight luminaire for indoor application.

Self-extinguishing ceramic or engineering AL. lamp holders with double slide-pole, 350°+ spin plate, transparent electric wires with AWG insulation.

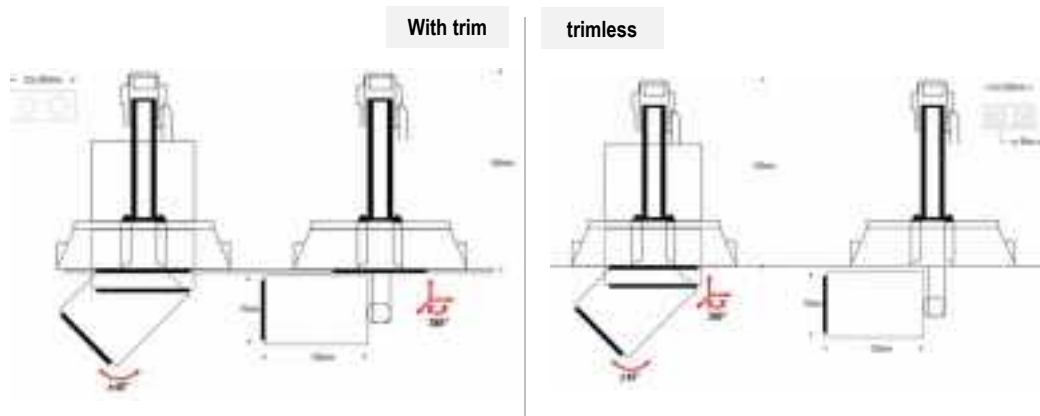
Aluminum Die-cast body with powder coat finish, 0°-30° lockable tilt aiming structure, Retractable mechanism for up to 0-90° pulldown of cylinder lamp, black thermo-Graphene coating and NANO Micro pattern Lens with Hex comb and UV filter lighting-support cover. Die-cast aluminum alloy body, cover and adjustable lamp support.



FIXTURE POWER	24W_trim(less)	
KEVIN_CCT	3000K	4000K
EQUIVALENCE	CDM 22W*2	
FIXTURE FLUX_lm	1060	1160
With flange(trim)	Trim   Trimless	
EFFICACY_lm/W	>45	>48
LUX@1m=22W CDM	>12,000_10°   >1,300_30°	
CRI_Ra	>90	
CTA_R9	>80	
SDCM_MacAdam	<3	
BEAM IMAGE	Single Shadow	
BEAM ANGLE_°	10°   30°	

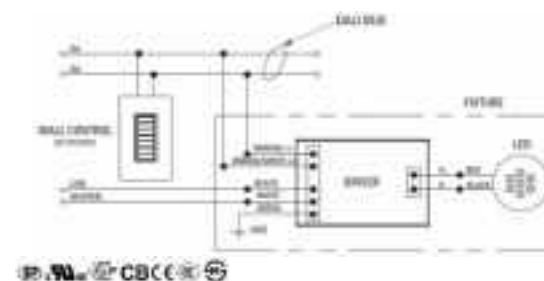


## INNOVATION PROGRAM | NANO TECHNOLOGY | HYBRID LED | MULTI TILT



OPTION	CODE
Trim-flange	T
Non Trim-flange	NT
OPTICAL ACCESSORY	CODE
Hex Cell Louver	L
UV-Filter	U
EMERGENCY KIT	CODE
Emergency + Battery pack 2h	E
ORDERING	CODE
TVC1C-24-10-G-DA-G-L	

## DRIVER COMPATIBILITY GUIDE



## DIMMING DRIVER WIRING SCHEMES ;

Note : Wiring diagrams are examples of typical installations intended to illustrate the number of wires that must be run to fixture. These diagrams are not intended to specify all equipment necessary for a given dimming circuit. Refer to specific dimmer manufacture's documentation for details.

Electronic 180~295Vac	D
DALI dimmable electronic 200~240Vac	DA
Electronic 0-10V Dimming 180~295Vac	DD



# aSka® | RECESSED ADJUSTABLE DOWNLIGHT



## TIVOLY-36W\_trim(trimless)

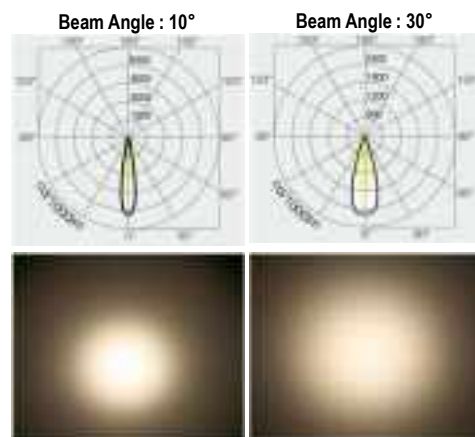
Recessed Adjustable Downlight luminaire for indoor application.

Self-extinguishing ceramic or engineering AL. lamp holders with double slide-pole, 350°+ spin plate, transparent electric wires with AWG insulation.

Aluminum Die-cast body with powder coat finish, 0°-30° lockable tilt aiming structure, Retractable mechanism for up to 0-90° pulldown of cylinder lamp, black thermo-Graphene coating and NANO Micro pattern Lens with Hex comb and UV filter lighting-support cover. Die-cast aluminum alloy body, cover and adjustable lamp support.



FIXTURE POWER	36W_trim(trimless)	
KEVIN_CCT	3000K	4000K
EQUIVALENCE	CDM 22W*3	
FIXTURE FLUX_lm	1590	1740
With flange(trim)	Trim   Trimless	
EFFICACY_lm/W	>45	>48
LUX@1m=22W CDM	>12,000_10°   >1,300_30°	
CRI_Ra	>90	
CTA_R9	>80	
SDCM_MacAdam	<3	
BEAM IMAGE	Single Shadow	
BEAM ANGLE_°	10°   30°	



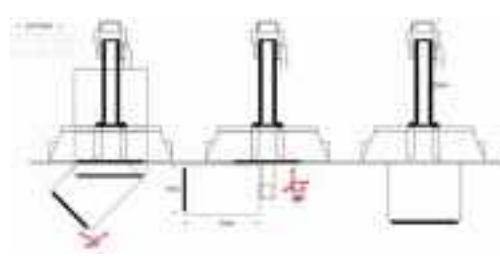
### INNOVATION PROGRAM

### NANO TECHNOLOGY

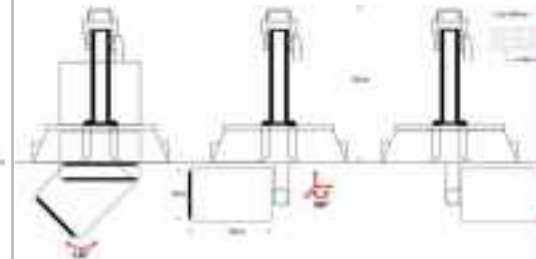
### HYBRID LED

### MULTI TILT

#### With trim

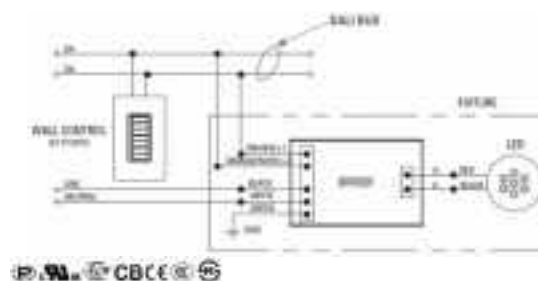


#### trimless



OPTION		CODE
	Trim-flange	T
	Non Trim-flange	NT
OPTICAL ACCESSORY		CODE
	Hex Cell Louver	L
	UV-Filter	U
EMERGENCY KIT		CODE
Emergency + Battery pack 2h		E
ORDERING		CODE
TV1C-36-10-G-DA-G-L		

### DRIVER COMPATIBILITY GUIDE



#### DIMMING DRIVER WIRING SCHEMES ;

Note : Wiring diagrams are examples of typical installations intended to illustrate the number of wires that must be run to fixture. These diagrams are not intended to specify all equipment necessary for a given dimming circuit. Refer to specific dimmer manufacture's documentation for details.

Electronic 180~295Vac	D
DALI dimmable electronic 200~240Vac	DA
Electronic 0-10V Dimming 180~295Vac	DD

# aSKa® | RECESSED ADJUSTABLE DOWNLIGHT



## TIVOLY-22W\_trim(trimless)

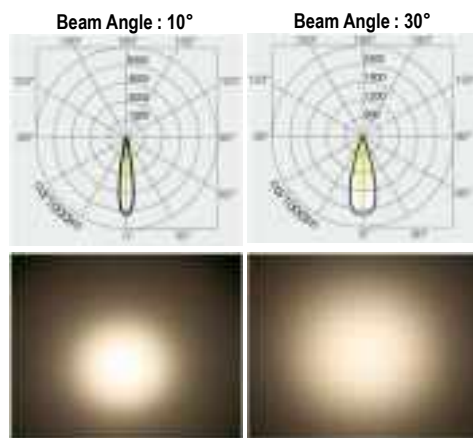
Recessed Adjustable Downlight luminaire for indoor application.

Self-extinguishing ceramic or engineering AL. lamp holders with double slide-pole, 350°+ spin plate, transparent electric wires with AWG insulation.

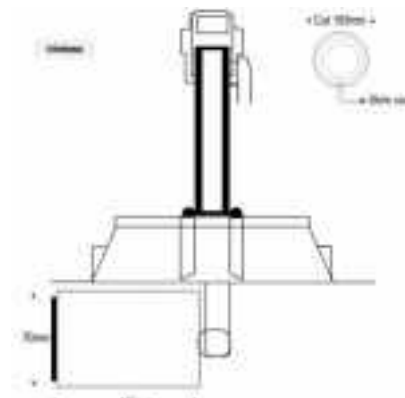
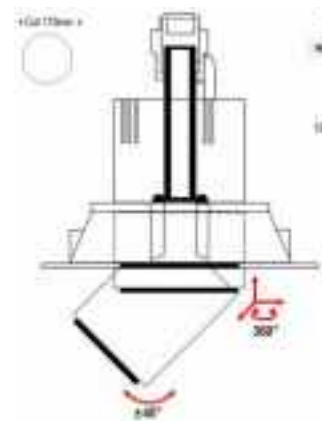
Aluminum Die-cast body with powder coat finish, 0°-30° lockable tilt aiming structure, Retractable mechanism for up to 0-90° pulldown of cylinder lamp, black thermo-Graphene coating and NANO Micro pattern Lens with Hex comb and UV filter lighting-support cover. Die-cast aluminum alloy body, cover and adjustable lamp support.



FIXTURE POWER	22W_trim(less)	
KEVIN_CCT	3000K	4000K
EQUIVALENCE	CDM 39W	
FIXTURE FLUX_lm	900	1000
With flange(trim)	Trim   Trimless	
EFFICACY_lm/W	>42	>45
LUX@1m=22W CDM	>21,000_10°   >3,000_30°	
CRI_Ra	>90	
CTA_R9	>80	
SDCM_MacAdam	<3	
BEAM IMAGE	Single Shadow	
BEAM ANGLE_°	10°   30°	

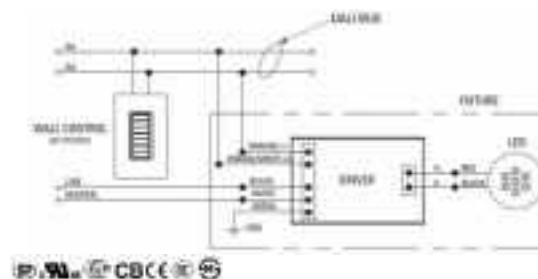


## INNOVATION PROGRAM | NANO TECHNOLOGY | HYBRID LED | MULTI TILT



OPTION	CODE
Trim-flange	T
Non Trim-flange	NT
OPTICAL ACCESSORY	CODE
Hex Cell Louver	L
UV-Filter	U
EMERGENCY KIT	CODE
Emergency + Battery pack 2h	E
ORDERING	CODE
TIVC-22-10-G-DA-G-L	

## DRIVER COMPATIBILITY GUIDE



### DIMMING DRIVER WIRING SCHEMES ;

Note : Wiring diagrams are examples of typical installations intended to illustrate the number of wires that must be run to fixture. These diagrams are not intended to specify all equipment necessary for a given dimming circuit. Refer to specific dimmer manufacture's documentation for details.

Electronic 180~295Vac	D
DALI dimmable electronic 200~240Vac	DA
Electronic 0-10V Dimming 180~295Vac	DD

# aSKa® | RECESSED ADJUSTABLE DOWNLIGHT



## TIVOLY-44W\_trim(trimless)

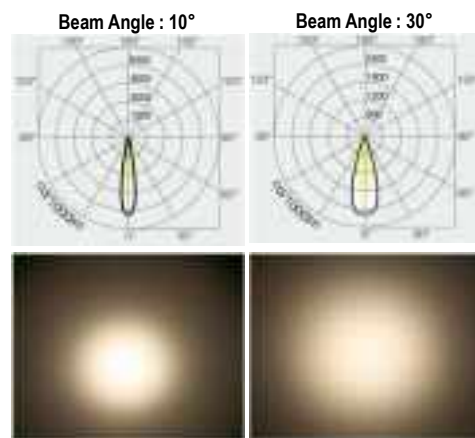
Recessed Adjustable Downlight luminaire for indoor application.

Self-extinguishing ceramic or engineering AL. lamp holders with double slide-pole, 350°+ spin plate, transparent electric wires with AWG insulation.

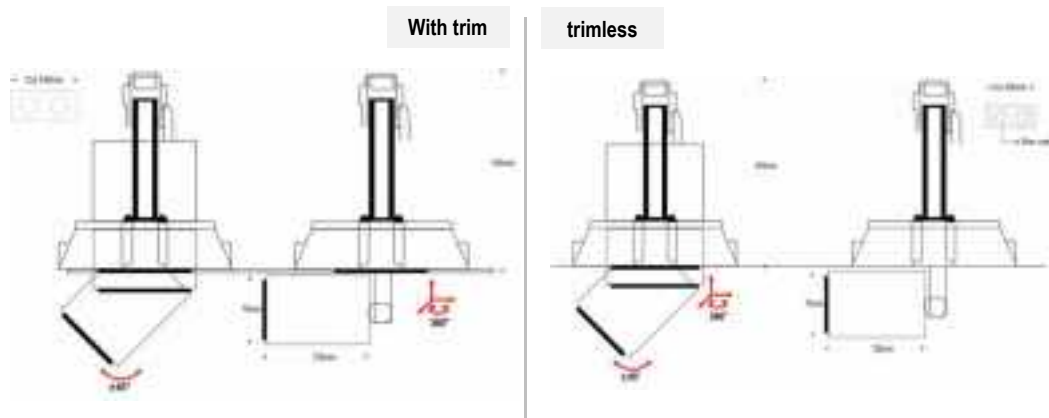
Aluminum Die-cast body with powder coat finish, 0°-30° lockable tilt aiming structure, Retractable mechanism for up to 0-90° pulldown of cylinder lamp, black thermo-Graphene coating and NANO Micro pattern Lens with Hex comb and UV filter lighting-support cover. Die-cast aluminum alloy body, cover and adjustable lamp support.



FIXTURE POWER	44W_trim(less)	
KEVIN_CCT	3000K	4000K
EQUIVALENCE	CDM 39W*2	
FIXTURE FLUX_lm	1800	2000
With flange(trim)	Trim   Trimless	
EFFICACY_lm/W	>42	>45
LUX@1m=22W CDM	>21,000_10°   >3,000_30°	
CRI_Ra	>90	
CTA_R9	>80	
SDCM_MacAdam	<3	
BEAM IMAGE	Single Shadow	
BEAM ANGLE_°	10°   30°	

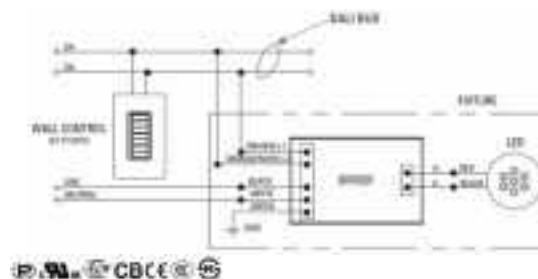


## INNOVATION PROGRAM | NANO TECHNOLOGY | HYBRID LED | MULTI TILT



OPTION		CODE
	Trim-flange	T
	Non Trim-flange	NT
OPTICAL ACCESSORY		CODE
	Hex Cell Louver	L
	UV-Filter	U
EMERGENCY KIT		CODE
Emergency + Battery pack 2h		E
ORDERING		CODE
TV1C-44-10-G-DA-G-L		

## DRIVER COMPATIBILITY GUIDE



### DIMMING DRIVER WIRING SCHEMES ;

Note : Wiring diagrams are examples of typical installations intended to illustrate the number of wires that must be run to fixture. These diagrams are not intended to specify all equipment necessary for a given dimming circuit. Refer to specific dimmer manufacturer's documentation for details.

Electronic 180~295Vac	D
DALI dimmable electronic 200~240Vac	DA
Electronic 0-10V Dimming 180~295Vac	DD



# aSKa® | RECESSED ADJUSTABLE DOWNLIGHT



## TIVOLY-66W\_trim(trimless)

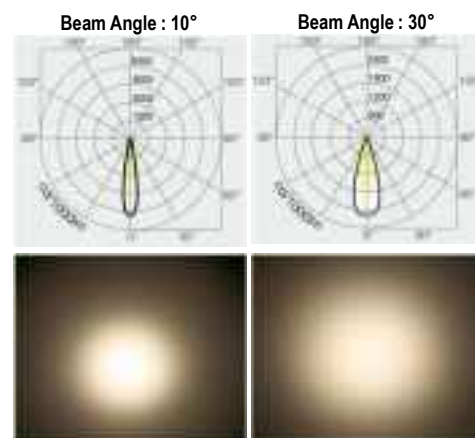
Recessed Adjustable Downlight luminaire for indoor application.

Self-extinguishing ceramic or engineering AL. lamp holders with double slide-pole, 350°+ spin plate, transparent electric wires with AWG insulation.

Aluminum Die-cast body with powder coat finish, 0°-30° lockable tilt aiming structure, Retractable mechanism for up to 0-90° pulldown of cylinder lamp, black thermo-Graphene coating and NANO Micro pattern Lens with Hex comb and UV filter lighting-support cover. Die-cast aluminum alloy body, cover and adjustable lamp support.



FIXTURE POWER	66W_trim(less)	
KEVIN_CCT	3000K	4000K
EQUIVALENCE	CDM 39W*3	
FIXTURE FLUX_lm	2700	3000
With flange(trim)	Trim   Trimless	
EFFICACY_lm/W	>42	>45
LUX@1m=22W CDM	>21,000_10°   >3,000_30°	
CRI_Ra	>90	
CTA_R9	>80	
SDCM_MacAdam	<3	
BEAM IMAGE	Single Shadow	
BEAM ANGLE_°	10°   30°	



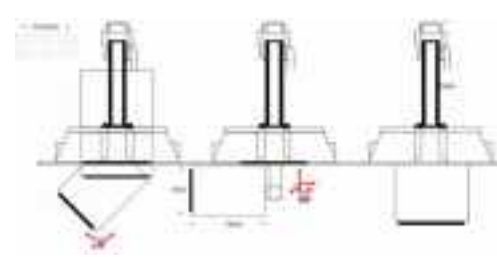
INNOVATION PROGRAM

NANO TECHNOLOGY

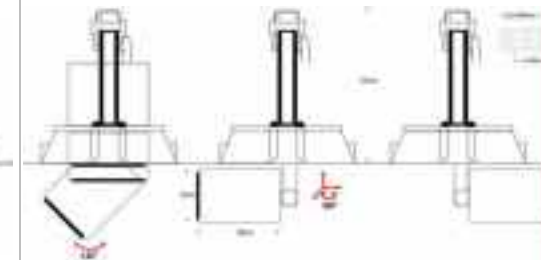
HYBRID LED

MULTI TILT

With trim

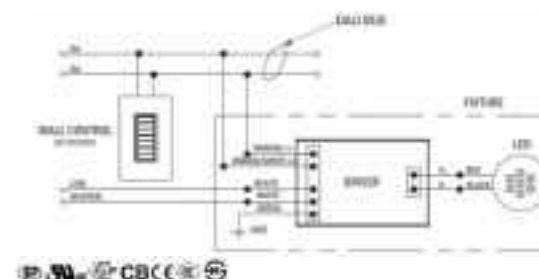


trimless



OPTION	CODE
<input type="checkbox"/> Trim-flange	T
<input type="checkbox"/> Non Trim-flange	NT
OPTICAL ACCESSORY	CODE
<input type="checkbox"/> Hex Cell Louver	L
<input type="checkbox"/> UV-Filter	U
EMERGENCY KIT	CODE
Emergency + Battery pack 2h	E
ORDERING	CODE
TV1C-66-10-G-DA-G-L	

## DRIVER COMPATIBILITY GUIDE



## DIMMING DRIVER WIRING SCHEMES ;

Note : Wiring diagrams are examples of typical installations intended to illustrate the number of wires that must be run to fixture. These diagrams are not intended to specify all equipment necessary for a given dimming circuit. Refer to specific dimmer manufacture's documentation for details.

Electronic 180~295Vac	D
DALI dimmable electronic 200~240Vac	DA
Electronic 0-10V Dimming 180~295Vac	DD



PTG's successful aSKa and aSKa Pro Range of architectural grade luminaires has now been expanded to encompass a wide selection of LED ceiling light modules embracing the latest technology available in the market place.

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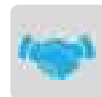
LED technology is seriously challenging conventional light sources not only in lumen output and colour rendition but also in size and affordability finally allowing the lighting professional to design with green credentials.



MULTIDISCIPLINARY APPROACH



LOW TOTAL OPERATING COSTS



STRONG PARTNERSHIP



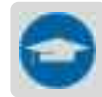
LIGHT QUALITY



LED LIGHTING EXPERIENCE



ENVIRONMENT



PROPRIETARY TECHNOLOGY AND INTELLECTUAL PROPERTY



EASE OF INSTALLATION



BEST OF BREED PRODUCTS



INNOVATIVE DESIGN



CTA\_R9 NANO TECHNOLOGY



NANO MATERIALS SCIENCE AND ANALYSIS



MICROINFORMATION SYSTEMS



ENERGY EFFICIENCY

# aSKa® | SINGLE CARDAN\_28W



## RAPAL-28W\_trim(trimless)

Adjustable recessed projector for halogen, 4H Hybrid COB LEDs sources.

Black painted metal body.

Metal frame in black colours finish. Light emission depending on the beam width of the selected source.

Optics 25°, 40° adjustable on the long side and +/- 20° on the short one. Rapid mounting system to the false ceiling by means of pre-galvanised steel brackets.

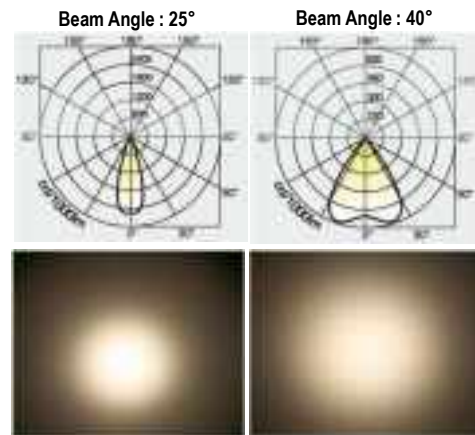
Remote DRIVER COMPATIBILITY GUIDE available as an accessory.



With trim

trimless

FIXTURE POWER	28W_trim(less)	
KEVIN_CCT	3000K	4000K
EQUIVALENCE	CDM 39W	
FIXTURE FLUX_lm	>2000	>2100
With flange(trim)	Trim   Trimless	
EFFICACY_lm/W	>72	>74
LUX@1m=39W CDM	>9,700_25°   >3,300_40°	
CRI_Ra	>90	
CTA_R9	>80	
SDCM_MacAdam	<3	
BEAM IMAGE	Single Shadow	
BEAM ANGLE_°	25°   40°	



INNOVATION PROGRAM

NANO TECHNOLOGY

HYBRID LED

COMPACT

With trim

trimless

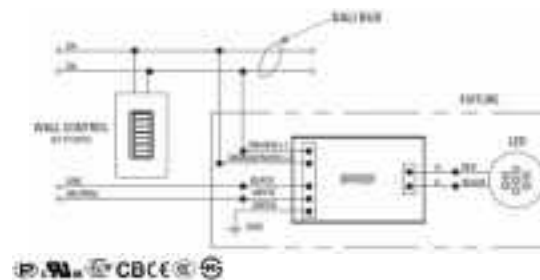
OPTION	CODE
Trim-flange	T
Non Trim-flange	NT

OPTICAL ACCESSORY	CODE
Hex Cell Louver	L
UV-Filter	U

EMERGENCY KIT	CODE
Emergency + Battery pack 2h	E

ORDERING	CODE
RP1C-28-10-DA-L	

## DRIVER COMPATIBILITY GUIDE



## DIMMING DRIVER WIRING SCHEMES ;

Note : Wiring diagrams are examples of typical installations intended to illustrate the number of wires that must be run to fixture. These diagrams are not intended to specify all equipment necessary for a given dimming circuit. Refer to specific dimmer manufacture's documentation for details.

Electronic 180~295Vac	D
DALI dimmable electronic 200~240Vac	DA
Electronic 0-10V Dimming 180~295Vac	DD



# aSKa® I DUO CARDAN\_56W



## RAPAL-DUO CARDAN 56W\_Trim(trimless)

Adjustable recessed projector for halogen, 4H Hybrid COB LEDs sources.

Black painted metal body.

Metal frame in black colours finish. Light emission depending on the beam width of the selected source.

Optics 25°, 40° adjustable on the long side and +/- 20° on the short one. Rapid mounting system to the false ceiling by means of pre-galvanised steel brackets.

Remote DRIVER COMPATIBILITY GUIDE available as an accessory.



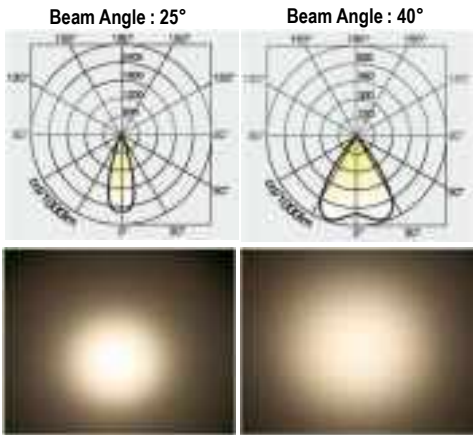
With trim



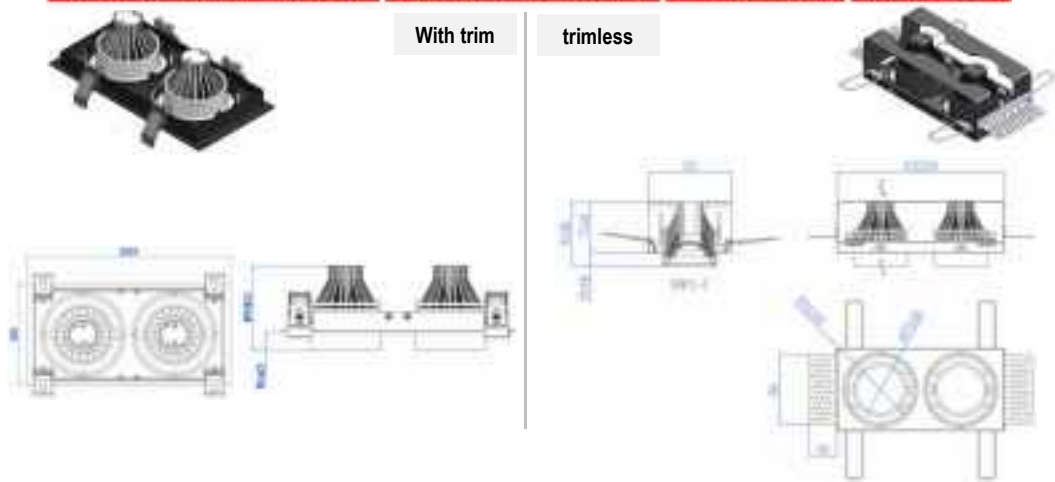
trimless



FIXTURE POWER	56W_trim(less)	
KEVIN_CCT	3000K	4000K
EQUIVALENCE	CDM 39W*2	
FIXTURE FLUX_lm	>4000	>4200
With flange(trim)	Trim   Trimless	
EFFICACY_lm/W	>72	>74
LUX@1m=39W CDM	>9,700_25°   >3,300_40°	
CRI_Ra	>90	
CTA_R9	>80	
SDCM_MacAdam	<3	
BEAM IMAGE	Single Shadow	
BEAM ANGLE_°	25°   40°	

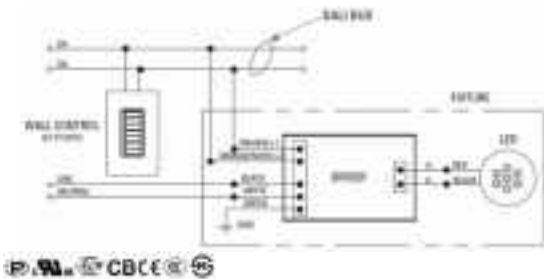


## INNOVATION PROGRAM NANO TECHNOLOGY HYBRID LED COMPACT



OPTION	CODE
Trim-flange	T
Non Trim-flange	NT
OPTICAL ACCESSORY	CODE
Hex Cell Louver	L
UV-Filter	U
EMERGENCY KIT	CODE
Emergency + Battery pack 2h	E
ORDERING	CODE
RP1C-56-10-DA-L	

## DRIVER COMPATIBILITY GUIDE



**DIMMING DRIVER WIRING SCHEMES ;**  
Note : Wiring diagrams are examples of typical installations intended to illustrate the number of wires that must be run to fixture. These diagrams are not intended to specify all equipment necessary for a given dimming circuit. Refer to specific dimmer manufacture's documentation for details.

Electronic 180~295Vac	D
DALI dimmable electronic 200~240Vac	DA
Electronic 0-10V Dimming 180~295Vac	DD



## RAPAL-TRIO CARDAN 84W\_Trim(trimless)

Adjustable recessed projector for halogen, 4H Hybrid COB LEDs sources.

Black painted metal body.

Metal frame in black colours finish. Light emission depending on the beam width of the selected source.

Optics 25°, 40° adjustable on the long side and +/- 20° on the short one. Rapid mounting system to the false ceiling by means of pre-galvanised steel brackets.

Remote DRIVER COMPATIBILITY GUIDE available as an accessory.



With trim



trimless

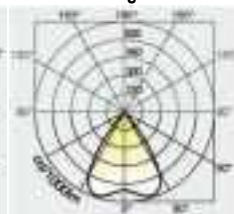


FIXTURE POWER	84W_trim(less)	
KEVIN_CCT	3000K	4000K
EQUIVALENCE	CDM 39W*3	
FIXTURE FLUX_lm	>6000	>6300
With flange(trim)	Trim   Trimless	
EFFICACY_lm/W	>72	>74
LUX@1m=39W CDM	>9,700_25°   >3,300_40°	
CRI_Ra	>90	
CTA_R9	>80	
SDCM_MacAdam	<3	
BEAM IMAGE	Single Shadow	
BEAM ANGLE_°	25°   40°	

Beam Angle : 25°



Beam Angle : 40°



INNOVATION PROGRAM

NANO TECHNOLOGY

HYBRID LED

COMPACT

With trim

trimless

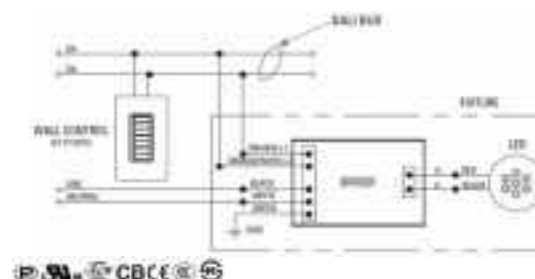
OPTION	CODE
Trim-flange	T
Non Trim-flange	NT

OPTICAL ACCESSORY	CODE
Hex Cell Louver	L
UV-Filter	U

EMERGENCY KIT	CODE
Emergency + Battery pack 2h	E

ORDERING	CODE
RP1C-84-10-DA-L	

### DRIVER COMPATIBILITY GUIDE



### DIMMING DRIVER WIRING SCHEMES ;

Note : Wiring diagrams are examples of typical installations intended to illustrate the number of wires that must be run to fixture. These diagrams are not intended to specify all equipment necessary for a given dimming circuit. Refer to specific dimmer manufacture's documentation for details.

Electronic 180~295Vac	D
DALI dimmable electronic 200~240Vac	DA
Electronic 0-10V Dimming 180~295Vac	DD



PTG's successful aSKa and aSKa Pro Range of architectural grade luminaires has now been expanded to encompass a wide selection of LED ceiling light modules embracing the latest technology available in the market place.

With PTG's new "MICRO Track Spot Light" Warm Dim modules added to the already extensive programme of LED modules from MICRO CYLINDER Engine.

plus our own micro cylinder engine 12 and 22 modules we feel that we have the low energy solution to many applications, be it hospitality, luxury retail maison, commercial or residential.

LED technology is seriously challenging conventional light sources not only in lumen output and colour rendition but also in size and affordability finally allowing the lighting professional to design with green credentials.



MULTIDISCIPLINARY APPROACH



LOW TOTAL OPERATING COSTS



STRONG PARTNERSHIP



LIGHT QUALITY



LED LIGHTING EXPERIENCE



ENVIRONMENT



PROPRIETARY TECHNOLOGY AND INTELLECTUAL PROPERTY



EASE OF INSTALLATION



BEST OF BREED PRODUCTS



INNOVATIVE DESIGN



CTA\_R9 NANO TECHNOLOGY



NANO MATERIALS SCIENCE AND ANALYSIS



MICROINFORMATION SYSTEMS



ENERGY EFFICIENCY



# aSKa® | MICRO TRACK SPOT LIGHT\_12W



## WITO-12W

Body in extruded aluminium available in three finishes: titanium grey, plaster white or deep black. Front interchangeable optic camera in black polycarbonate, back ring with radial grid for heat dissipation.

LEDs with warm or neutral white emission colour temperatures. Precision optics in metallized polycarbonate with spot, flood, medium-wide flood or wide flood beam openings. The body can be adjusted from 0° to 90° on a vertical plane and by 355° on a horizontal plane with double blocking equipped with a friction system.

Possibility to assemble a wide range of accessories and optic screens. Electronic driver integrated in the body of the fixture.

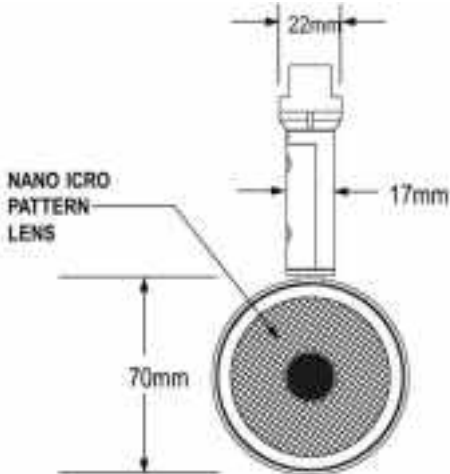
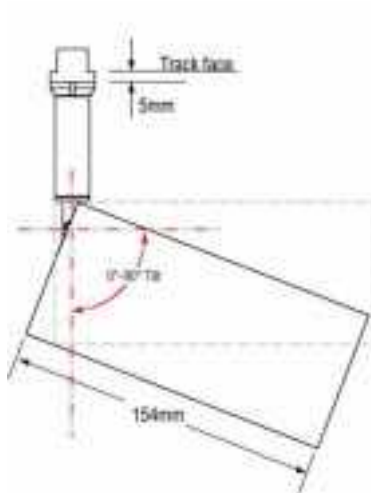


INNOVATION PROGRAM

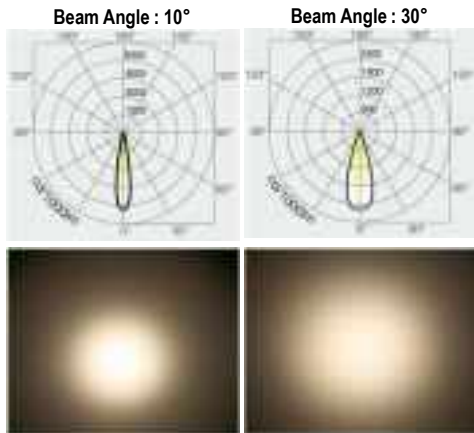
NANO TECHNOLOGY

HYBRID LED

COMPACT



FIXTURE POWER	12W	
KEVIN_CCT	3000K	4000K
EQUIVALENCE	CDM 22W	
FIXTURE FLUX_lm	530	580
Driver	Integral	
EFFICACY_lm/W	>45	>48
LUX@1m=22W CDM	>12,000_10°   >1,300_30°	
CRI_Ra	>90	
CTA_R9	>80	
SDCM_MacAdam	<3	
BEAM IMAGE	Single Shadow	
BEAM ANGLE_°	10°   30°	



### OPTICAL ACCESSORY

### CODE

Hex Cell Louver

L

UV-Filter

U

### ORDERING

### CODE

WT1C-12-10-L

### DRIVER COMPATIBILITY GUIDE



### DRIVER WIRING SCHEMES ;

Note : Wiring diagrams are examples of typical installations intended to illustrate the number of wires that must be run to fixture. These diagrams are not intended to specify all equipment necessary for a given circuit. Refer to specific non-dimmer manufacture's documentation for details.

Electronic 180~295Vac

D

# aSKa® | MICRO TRACK SPOT LIGHT\_22W



## WITO-22W

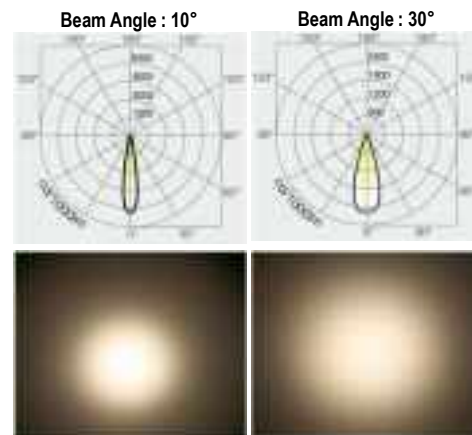
Body in extruded aluminium available in three finishes: titanium grey, plaster white or deep black. Front interchangeable optic camera in black polycarbonate, back ring with radial grid for heat dissipation.

LEDs with warm or neutral white emission colour temperatures. Precision optics in metallized polycarbonate with spot, flood, medium-wide flood or wide flood beam openings. The body can be adjusted from 0° to 90° on a vertical plane and by 355° on a horizontal plane with double blocking equipped with a friction system.

Possibility to assemble a wide range of accessories and optic screens. Electronic driver integrated in the body of the fixture.



FIXTURE POWER	22W	
KEVIN_CCT	3000K	4000K
EQUIVALENCE	CDM 39W	
FIXTURE FLUX_lm	1060	1160
Driver	Internal	
EFFICACY_lm/W	>45	>48
LUX@1m=22W CDM	>21,000_10°   >3,000_30°	
CRI_Ra	>95	
CTA_R9	>90	
SDCM_MacAdam	<3	
BEAM IMAGE	Single Shadow	
BEAM ANGLE_°	10°   30°	

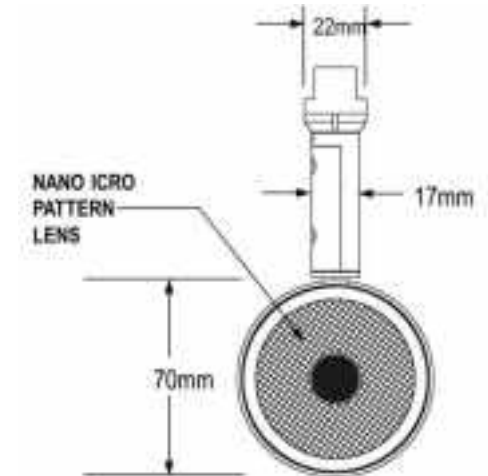
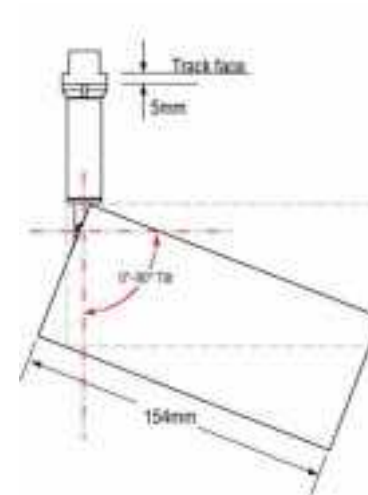


INNOVATION PROGRAM

NANO TECHNOLOGY

HYBRID LED

COMPACT



OPTICAL ACCESSORY	CODE
Hex Cell Louver	L
UV-Filter	U
ORDERING	CODE
WT1C-22-10-L	

## DRIVER COMPATIBILITY GUIDE



### DRIVER WIRING SCHEMES ;

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Electronic 180~295Vac

D



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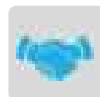
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INNOVATIVE DESIGN



CTA\_R9 NANO TECHNOLOGY



NANO MATERIALS SCIENCE AND ANALYSIS



MICROINFORMATION SYSTEMS



ENERGY EFFICIENCY



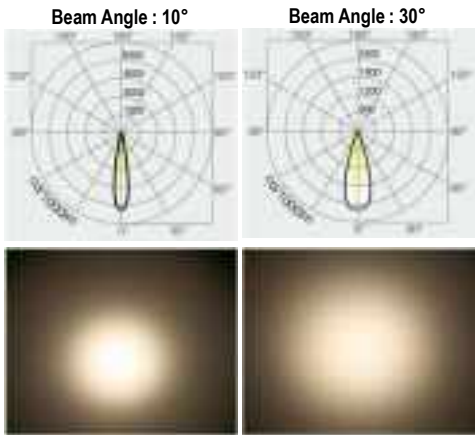


RUM0-12W

**Micro Cylinder Engine** - Available with maximum delivered lux of 12,000 at 12W (22W Equivalence CDM). The Cylinder LED Max Output cylinder provides maximum delivered lumens and optical performance through the optimization of thermal, optical and LED science.



FIXTURE POWER	12W	
KEVIN_CCT	3000K	4000K
EQUIVALENCE	CDM 22W	
FIXTURE FLUX_lm	530	580
Driver	Internal	
EFFICACY_lm/W	>45	>48
LUX@1m=22W CDM	>12,000_10°   >1,300_30°	
CRI_Ra	>90	
CTA_R9	>80	
SDCM_MacAdam	<3	
BEAM IMAGE	Single Shadow	
BEAM ANGLE_°	10°   30°	

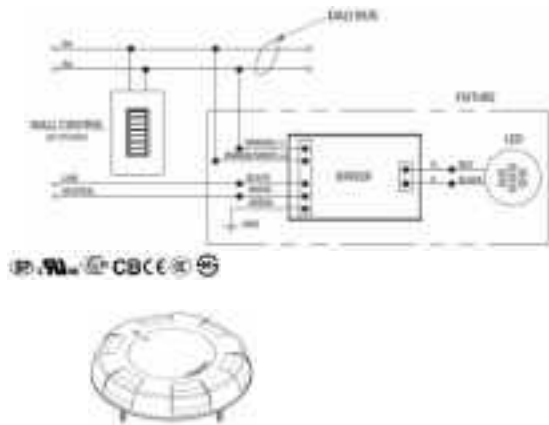


INNOVATION PROGRAM   NANO TECHNOLOGY   HYBRID LED   COMPACT



OPTICAL ACCESSORY	CODE
Hex Cell Louver	L
UV-Filter	U
EMERGENCY KIT	CODE
Emergency + Battery pack 2h	E
ORDERING	CODE
RU1C-12-10-DA-L	

DRIVER COMPATIBILITY GUIDE



**DIMMING DRIVER WIRING SCHEMES ;**  
Note : Wiring diagrams are examples of typical installations intended to illustrate the number of wires that must be run to fixture. These diagrams are not intended to specify all equipment necessary for a given dimming circuit. Refer to specific dimmer manufacture's documentation for details.

Electronic 180~295Vac	D
DALI dimmable electronic 200~240Vac	DA
Electronic 0-10V Dimming 180~295Vac	DD
Electronic 180~295Vac	DE

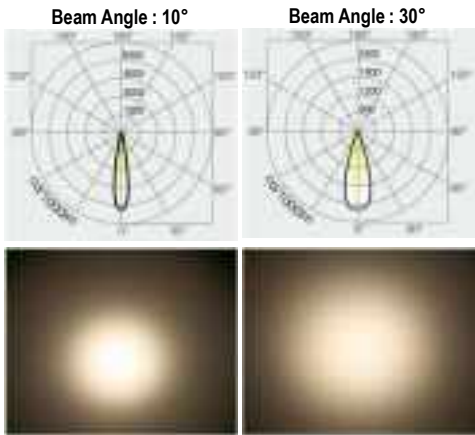


RUMO-22W

**Micro Cylinder Engine** - Available with maximum delivered lux of 12,000 at 22W (39W Equivalence CDM). The Cylinder LED Max Output cylinder provides maximum delivered lumens and optical performance through the optimization of thermal, optical and LED science.



FIXTURE POWER	22W	
KEVIN_CCT	3000K	4000K
EQUIVALENCE	CDM 39W	
FIXTURE FLUX_lm	1060	1160
Driver	Internal	
EFFICACY_lm/W	>45	>48
LUX@1m=39W CDM	>21,000_10°   >3,000_30°	
CRI_Ra	>90	
CTA_R9	>80	
SDCM_MacAdam	<3	
BEAM IMAGE	Single Shadow	
BEAM ANGLE_°	10°   30°	

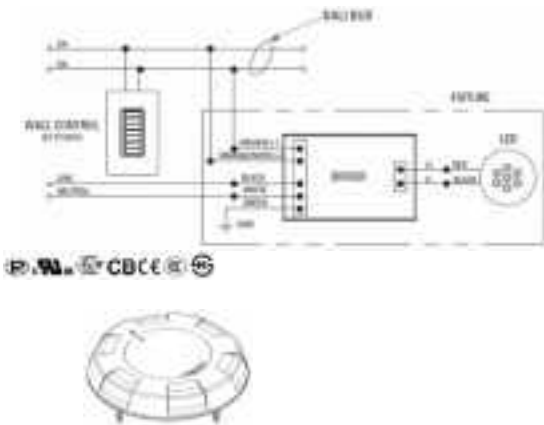


INNOVATION PROGRAM | NANO TECHNOLOGY | HYBRID LED | COMPACT



OPTICAL ACCESSORY	CODE
Hex Cell Louver	L
UV-Filter	U
EMERGENCY KIT	CODE
Emergency + Battery pack 2h	E
ORDERING	CODE
RU1C-12-10-DA-L	

DRIVER COMPATIBILITY GUIDE



**DIMMING DRIVER WIRING SCHEMES ;**  
Note : Wiring diagrams are examples of typical installations intended to illustrate the number of wires that must be run to fixture. These diagrams are not intended to specify all equipment necessary for a given dimming circuit. Refer to specific dimmer manufacture's documentation for details.

Electronic 180~295Vac	D
DALI dimmable electronic 200~240Vac	DA
Electronic 0-10V Dimming 180~295Vac	DD
Electronic 180~295Vac	DE



PTG's successful aSKa and aSKa Pro Range of architectural grade luminaires has now been expanded to encompass a wide selection of LED ceiling light modules embracing the latest technology available in the market place.

With PTG's new "Micro Cylinder Pendant Downlight" Warm Dim modules added to the already extensive programme of LED modules from MICRO CYLINDER Engine.

plus our own micro cylinder engine 12 and 22 modules we feel that we have the low energy solution to many applications, be it hospitality, luxury retail maison, commercial or residential.

LED technology is seriously challenging conventional light sources not only in lumen output and colour rendition but also in size and affordability finally allowing the lighting professional to design with green credentials.



MULTIDISCIPLINARY APPROACH



LOW TOTAL OPERATING COSTS



STRONG PARTNERSHIP



LIGHT QUALITY



LED LIGHTING EXPERIENCE



ENVIRONMENT



PROPRIETARY TECHNOLOGY AND INTELLECTUAL PROPERTY



EASE OF INSTALLATION



BEST OF BREED PRODUCTS



INNOVATIVE DESIGN



CTA\_R9 NANO TECHNOLOGY



NANO MATERIALS SCIENCE AND ANALYSIS



MICROINFORMATION SYSTEMS



ENERGY EFFICIENCY





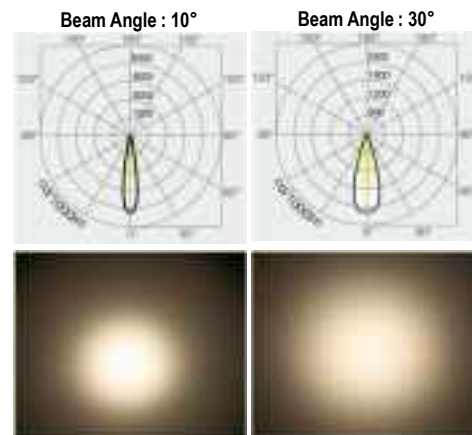
## RACONO-12W

**Micro Cylinder LED Engine** - Available in 2 wattage/lumen packages with maximum delivered lux of over 12,000 at 12W (22W Equivalence CDM).

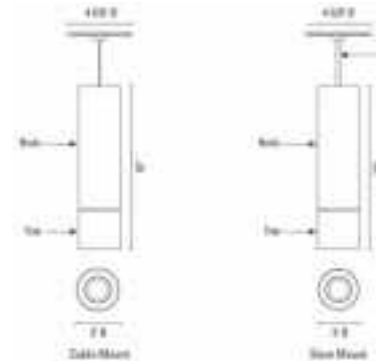
The Cylinder LED provides maximum delivered high quality beam and optical performance through the optimization of thermal, optical and LED science in the smallest possible aperture.



FIXTURE POWER	12W	
KEVIN_CCT	3000K	4000K
EQUIVALENCE	CDM 22W	
FIXTURE FLUX_lm	530	580
Driver	Internal	
EFFICACY_lm/W	>45	>48
LUX@1m=22W CDM	>12,000_10°   >1,300_30°	
CRI_Ra	>95	
CTA_R9	>90	
SDCM_MacAdam	<3	
BEAM IMAGE	Single Shadow	
BEAM ANGLE_°	10°   30°	

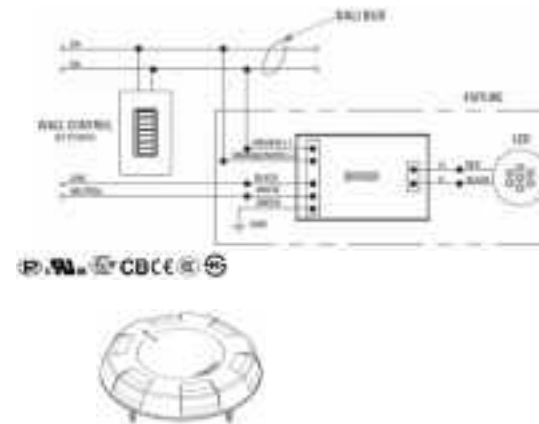


## INNOVATION PROGRAM | NANO TECHNOLOGY | HYBRID LED | COMPACT



OPTICAL ACCESSORY	CODE
Hex Cell Louver	L
UV-Filter	U
EMERGENCY KIT	CODE
Emergency + Battery pack 2h	E
ORDERING	CODE
RN1C-12-10-DA-L	

## DRIVER COMPATIBILITY GUIDE



### DIMMING DRIVER WIRING SCHEMES ;

Note : Wiring diagrams are examples of typical installations intended to illustrate the number of wires that must be run to fixture. These diagrams are not intended to specify all equipment necessary for a given dimming circuit. Refer to specific dimmer manufacture's documentation for details.

Electronic 180~295Vac	D
DALI dimmable electronic 200~240Vac	DA
Electronic 0-10V Dimming 180~295Vac	DD
Electronic 180~295Vac	DE

# aSKa® | MICRO CYLINDER PENDANT\_22W



## RACONO-22W

**Micro Cylinder LED Engine** - Available in 2 wattage/lumen packages with maximum delivered lux of over 12,000 at 22W (39W Equivalence CDM).

The Cylinder LED provides maximum delivered high quality beam and optical performance through the optimization of thermal, optical and LED science in the smallest possible aperture.

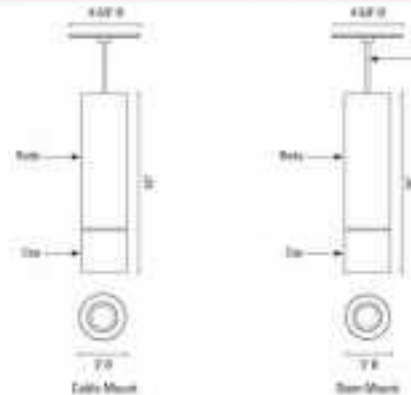


INNOVATION PROGRAM

NANO TECHNOLOGY

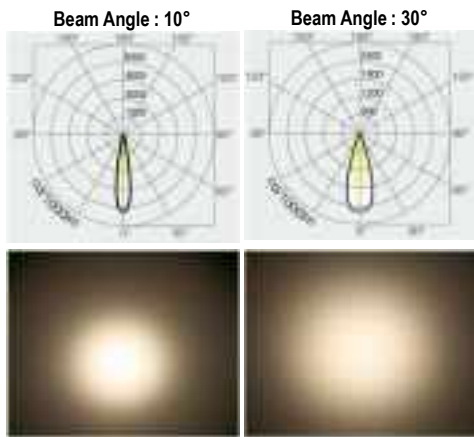
HYBRID LED

COMPACT

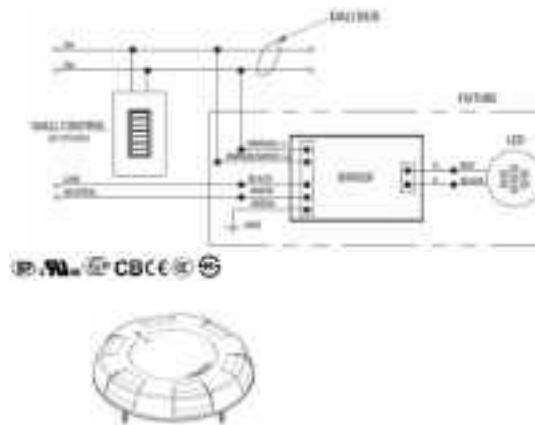


OPTICAL ACCESSORY	CODE
Hex Cell Louver	L
UV-Filter	U
EMERGENCY KIT	CODE
Emergency + Battery pack 2h	E
ORDERING	CODE
RN1C-22-10-DA-L	

FIXTURE POWER	22W	
KEVIN_CCT	3000K	4000K
EQUIVALENCE	CDM 39W	
FIXTURE FLUX_lm	1060	1160
Driver	Internal	
EFFICACY_lm/W	>45	>48
LUX@1m=22W CDM	>21,000_10°   >3,000_30°	
CRI_Ra	>95	
CTA_R9	>90	
SDCM_MacAdam	<3	
BEAM IMAGE	Single Shadow	
BEAM ANGLE_°	10°   30°	



## DRIVER COMPATIBILITY GUIDE



### DIMMING DRIVER WIRING SCHEMES ;

Note : Wiring diagrams are examples of typical installations intended to illustrate the number of wires that must be run to fixture. These diagrams are not intended to specify all equipment necessary for a given dimming circuit. Refer to specific dimmer manufacture's documentation for details.

Electronic 180~295Vac	D
DALI dimmable electronic 200~240Vac	DA
Electronic 0-10V Dimming 180~295Vac	DD
Electronic 180~295Vac	DE



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plus our own micro cylinder engine 12 and 22 modules we feel that we have the low energy solution to many applications, be it hospitality, luxury retail maison, commercial or residential.

LED technology is seriously challenging conventional light sources not only in lumen output and colour rendition but also in size and affordability finally allowing the lighting professional to design with green credentials.



MULTIDISCIPLINARY APPROACH



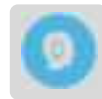
LOW TOTAL OPERATING COSTS



STRONG PARTNERSHIP



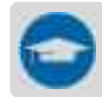
LIGHT QUALITY



LED LIGHTING EXPERIENCE



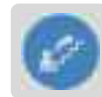
ENVIRONMENT



PROPRIETARY TECHNOLOGY AND INTELLECTUAL PROPERTY



EASE OF INSTALLATION



BEST OF BREED PRODUCTS



INNOVATIVE DESIGN



CTA\_R9 NANO TECHNOLOGY



NANO MATERIALS SCIENCE AND ANALYSIS



MICROINFORMATION SYSTEMS



ENERGY EFFICIENCY



# aSKa® | LASER PINHOLE DOWNLIGHT



## LAPINO\_22W

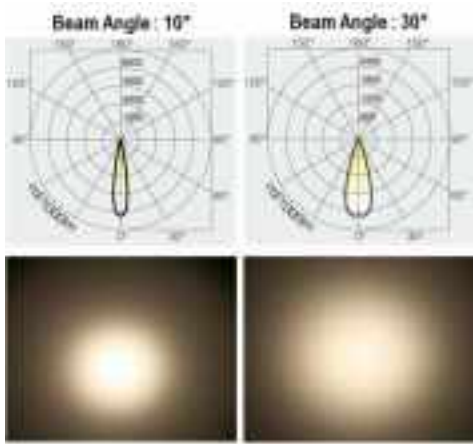
LASER PINHOLE downlight's small aperture and shallow housing improve installation flexibility in applications from residential to retail.

It is available in 3000K at a CRI of 90, R9 of 80; in 4000K at a CRI of 90, R9 of 50. and in either a 3500K Class A or a 3000K Crisp White option.

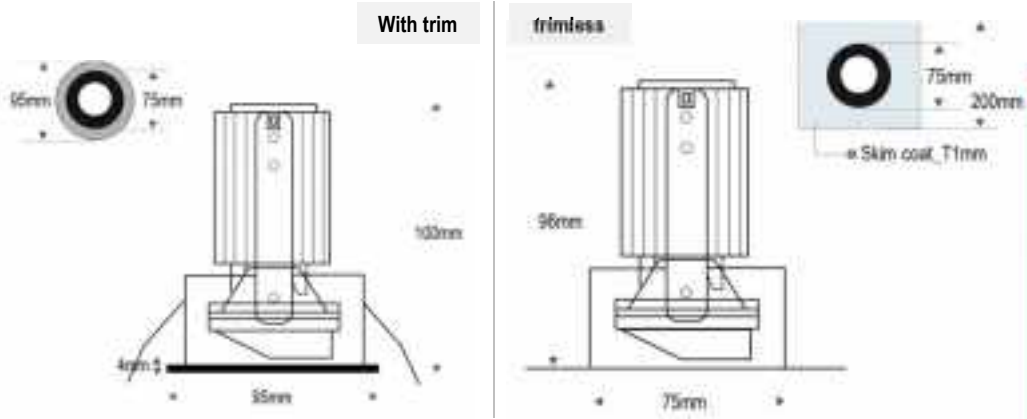
NANO MICRO PATTERN LENS's Optics range from 10 degrees to 30 degrees and lumen packages are available from 1200 lumens to 2,800 lumens. Featuring a black powder-coated steel frame with downlight, lensed downlight, lensed pinhole, and trimless options.



FIXTURE POWER	22W	
KEVIN_CCT	3000K	4000K
EQUIVALENCE	CDM 39W	
FIXTURE FLUX_lm	>1100	>1100
Trim	Trim   Trimless	
EFFICACY_lm/W	>50	>50
LUX@1m=22W CDM	>21,000_10°   >3,000_30°	
CRI_Ra	>90	
CTA_R9	>80	
SDCM_MacAdam	<3	
BEAM IMAGE	Single Shadow	
BEAM ANGLE_°	10°   30°	

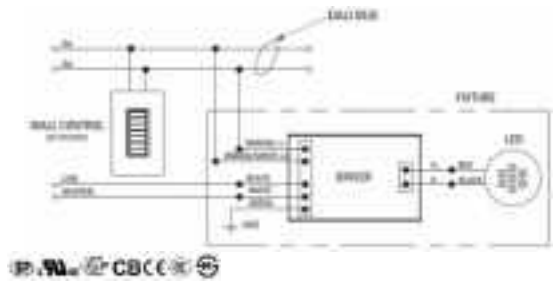


## INNOVATION PROGRAM | NANO TECHNOLOGY | HYBRID LED | GOOD DESIGN



OPTION		CODE
	Trim-flange	T
	Non Trim-flange	NT
OPTICAL ACCESSORY		CODE
	Hex Cell Louver	L
	UV-Filter	U
EMERGENCY KIT		CODE
Emergency + Battery pack 2h		E
ORDERING		CODE
LP1C-22-10-DA-L		

## DRIVER COMPATIBILITY GUIDE



**DIMMING DRIVER WIRING SCHEMES ;**  
Note : Wiring diagrams are examples of typical installations intended to illustrate the number of wires that must be run to fixture. These diagrams are not intended to specify all equipment necessary for a given dimming circuit. Refer to specific dimmer manufacture's documentation for details.

Electronic 180~295Vac	D
DALI dimmable electronic 200~240Vac	DA
Electronic 0-10V Dimming 180~295Vac	DD

# aSka® | PROJECTOR PINHOLE DOWNLIGHT



## LAPINO\_15W

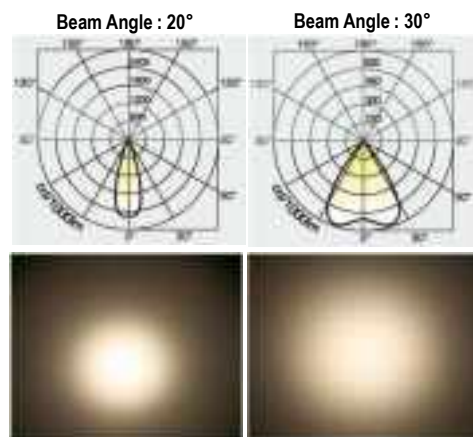
PROJECTOR PINHOLE downlight's small aperture and shallow housing improve installation flexibility in applications from residential to retail.

It is available in 3000K at a CRI of 90, R9 of 80; in 4000K at a CRI of 90, R9 of 50. and in either a 3500K Class A or a 3000K Crisp White option.

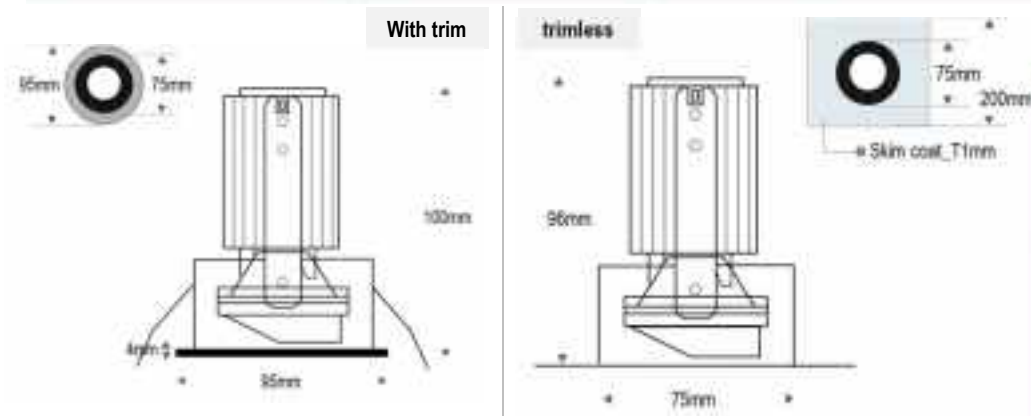
NANO MICRO PATTERN LENS's Optics range from 10 degrees to 30 degrees and lumen packages are available from 1200 lumens to 2,800 lumens. Featuring a black powder-coated steel frame with downlight, lensed downlight, lensed pinhole, and trimless options.



FIXTURE POWER	15W	
KEVIN_CCT	3000K	4000K
EQUIVALENCE	CDM 22W	
FIXTURE FLUX_lm	750	750
Trim	Trim   Trimless	
EFFICACY_lm/W	>50	>50
LUX@1m=22W CDM	>13,000_10°   >1,400_30°	
CRI_Ra	>95	
CTA_R9	>90	
SDCM_MacAdam	<3	
BEAM IMAGE	Single Shadow	
BEAM ANGLE_°	10°	

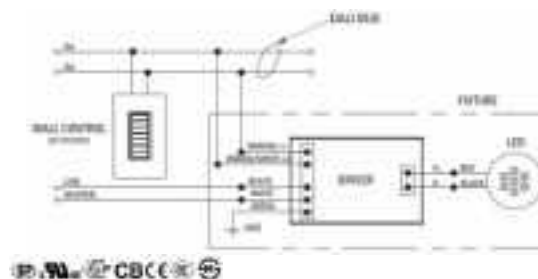


## INNOVATION PROGRAM NANO TECHNOLOGY HYBRID LED GOOD DESIGN



OPTION	CODE
Trim-flange	T
Non Trim-flange	NT
OPTICAL ACCESSORY	CODE
Hex Cell Louver	L
UV-Filter	U
EMERGENCY KIT	CODE
Emergency + Battery pack 2h	E
ORDERING	CODE
LP1C-15-20-DA-L	

## DRIVER COMPATIBILITY GUIDE



## DIMMING DRIVER WIRING SCHEMES ;

Note : Wiring diagrams are examples of typical installations intended to illustrate the number of wires that must be run to fixture. These diagrams are not intended to specify all equipment necessary for a given dimming circuit. Refer to specific dimmer manufacture's documentation for details.

Electronic 180~295Vac	D
DALI dimmable electronic 200~240Vac	DA
Electronic 0-10V Dimming 180~295Vac	DD

# aSka® | PROJECTOR PINHOLE DOWNLIGHT



## LAPINO\_35W

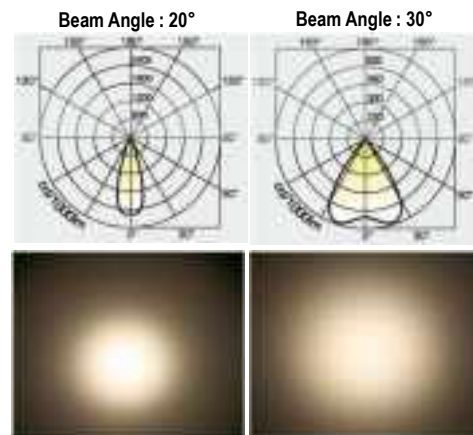
PROJECTOR PINHOLE downlight's small aperture and shallow housing improve installation flexibility in applications from residential to retail.

It is available in 3000K at a CRI of 90, R9 of 80; in 4000K at a CRI of 90, R9 of 50, and in either a 3500K Class A or a 3000K Crisp White option.

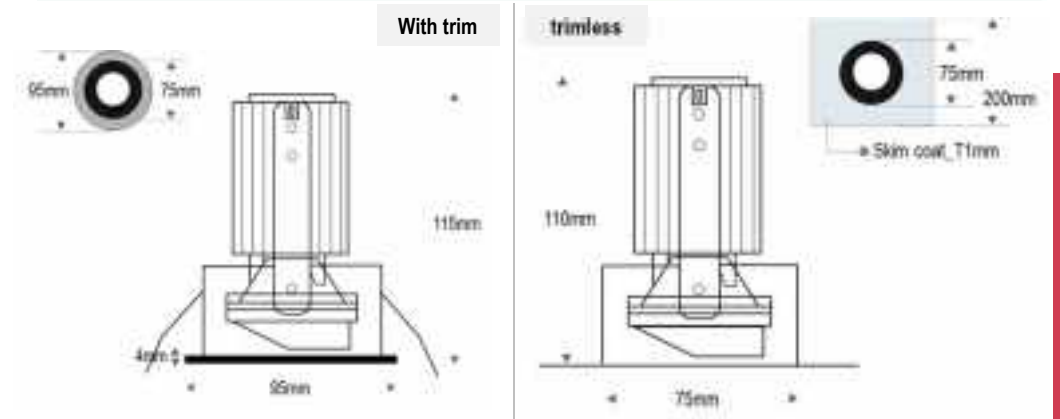
NANO MICRO PATTERN LENS's Optics range from 10 degrees to 30 degrees and lumen packages are available from 1200 lumens to 2,800 lumens. Featuring a black powder-coated steel frame with downlight, lensed downlight, lensed pinhole, and trimless options.



FIXTURE POWER	35W	
KEVIN_CCT	3000K	4000K
EQUIVALENCE	CDM 70W	
FIXTURE FLUX_lm	>1575	>1575
Trim	Trim	
EFFICACY_lm/W	>45	>45
LUX@1m=22W CDM	>2,800_10°	
CRI_Ra	>95	
CTA_R9	>90	
SDCM_MacAdam	<3	
BEAM IMAGE	Single Shadow	
BEAM ANGLE_°	10°	

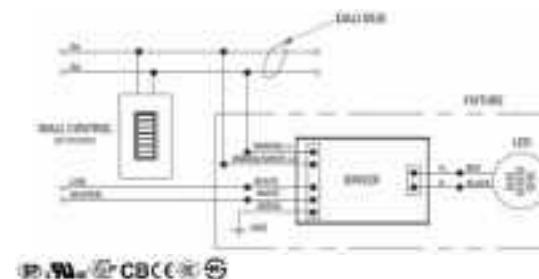


## INNOVATION PROGRAM NANO TECHNOLOGY HYBRID LED GOOD DESIGN



OPTION	CODE
Trim-flange	T
Non Trim-flange	NT
OPTICAL ACCESSORY	CODE
Hex Cell Louver	L
UV-Filter	U
EMERGENCY KIT	CODE
Emergency + Battery pack 2h	E
ORDERING	CODE
LP1C-35-30-DA-L	

## DRIVER COMPATIBILITY GUIDE



## DIMMING DRIVER WIRING SCHEMES ;

Note : Wiring diagrams are examples of typical installations intended to illustrate the number of wires that must be run to fixture. These diagrams are not intended to specify all equipment necessary for a given dimming circuit. Refer to specific dimmer manufacture's documentation for details.

Electronic 180~295Vac	D
DALI dimmable electronic 200~240Vac	DA
Electronic 0-10V Dimming 180~295Vac	DD



# aSka® | PROJECTOR PINHOLE DOWNLIGHT



## LAPINO\_60W

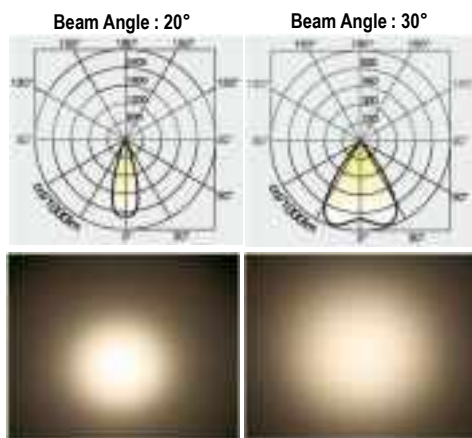
PROJECTOR PINHOLE downlight's small aperture and shallow housing improve installation flexibility in applications from residential to retail.

It is available in 3000K at a CRI of 90, R9 of 80; in 4000K at a CRI of 90, R9 of 50. and in either a 3500K Class A or a 3000K Crisp White option.

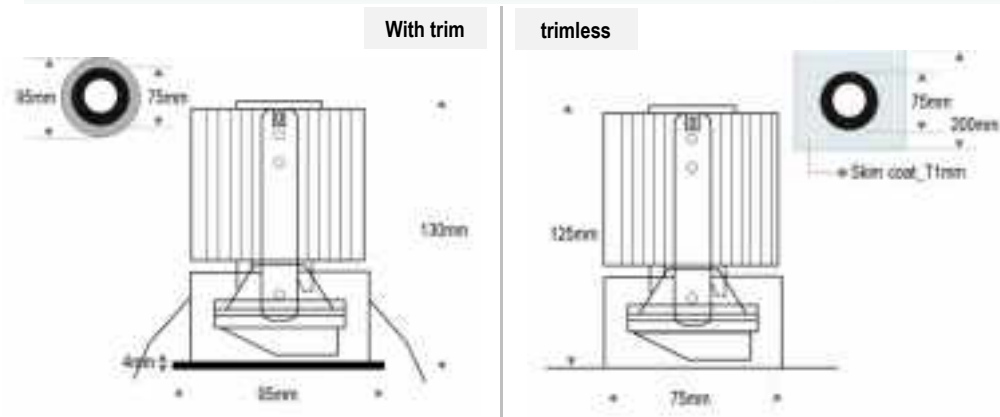
NANO MICRO PATTERN LENS's Optics range from 10 degrees to 30 degrees and lumen packages are available from 800 lumens to 6,300 lumens. Featuring a black powder-coated steel frame with downlight, lensed downlight, lensed pinhole, and trimless options.



FIXTURE POWER	60W	
KEVIN_CCT	3000K	4000K
EQUIVALENCE	CDM 150W	
FIXTURE FLUX_lm	>2700	>2700
Trim	Trim   Trimless	
EFFICACY_lm/W	>45	>45
LUX@1m=22W CDM	>50,000_10°	
CRI_Ra	>95	
CTA_R9	>90	
SDCM_MacAdam	<3	
BEAM IMAGE	Single Shadow	
BEAM ANGLE_°	10°	

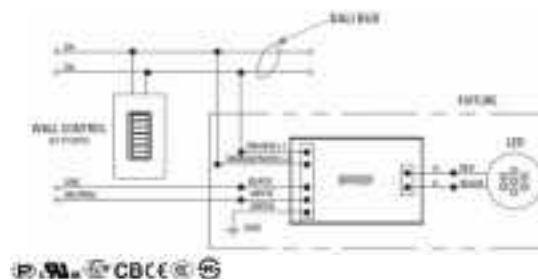


## INNOVATION PROGRAM NANO TECHNOLOGY HYBRID LED GOOD DESIGN



OPTION		CODE
	Trim-flange	T
	Non Trim-flange	NT
OPTICAL ACCESSORY		CODE
	Hex Cell Louver	L
	UV-Filter	U
EMERGENCY KIT		CODE
Emergency + Battery pack 2h		E
ORDERING		CODE
LP1C-15-60-DA-L		

## DRIVER COMPATIBILITY GUIDE



## DIMMING DRIVER WIRING SCHEMES ;

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Electronic 180~295Vac	D
DALI dimmable electronic 200~240Vac	DA
Electronic 0-10V Dimming 180~295Vac	DD



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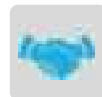
LED technology is seriously challenging conventional light sources not only in lumen output and colour rendition but also in size and affordability finally allowing the lighting professional to design with green credentials.



MULTIDISCIPLINARY APPROACH



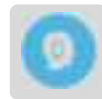
LOW TOTAL OPERATING COSTS



STRONG PARTNERSHIP



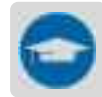
LIGHT QUALITY



LED LIGHTING EXPERIENCE



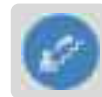
ENVIRONMENT



PROPRIETARY TECHNOLOGY AND  
INTELLECTUAL PROPERTY



EASE OF INSTALLATION



BEST OF BREED PRODUCTS



INNOVATIVE DESIGN



CTA\_R9 NANO TECHNOLOGY



NANO MATERIALS SCIENCE AND  
ANALYSIS



MICROINFORMATION SYSTEMS



ENERGY EFFICIENCY



TRAZ\_12W

Grazer Linear revolutionises the concept of the downlight. The product with miniaturised optic, providing high visual comfort, uses the physical principle of pinpoint lamps, generating circular light emission.

No more rigid frameworks, but instead ample opportunities for customisation. INNOVATIVE PROGRAM in its simplicity, Grazer Linear is the result of an integrated process involving various disciplines: the science of lighting, technology, design and culture.

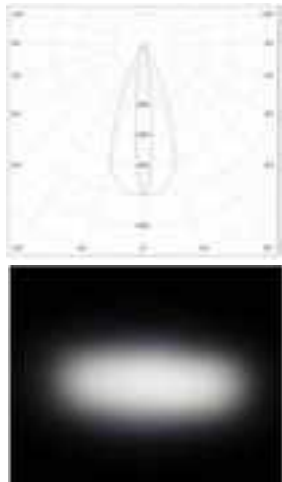
The system is a multiple, flexible, universal tool.

Grazer Linear has received prestigious international awards.



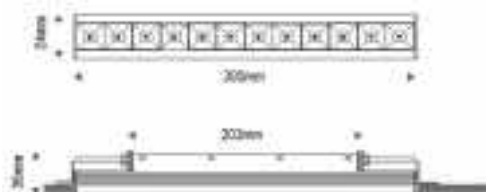
FIXTURE POWER	12W	
KEVIN_CCT	3000K	4000K
EQUIVALENCE		
FIXTURE FLUX_lm	530	580
Trim	Trim   Trimless	
EFFICACY_lm/W	>45	>48
LUX@1m	>3,800_10°*60°	
CRI_Ra	>95	
CTA_R9	>90	
SDCM_MacAdam	<3	
BEAM IMAGE	Single Shadow	
BEAM ANGLE_°	10°*60°_Elliptical	

Beam Angle : 10°\* 60°



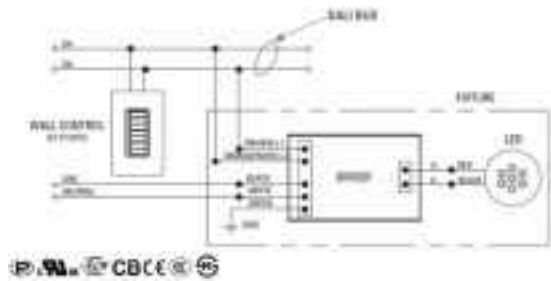
INNOVATION PROGRAM   ELLIPTICAL BEAM   HYBRID LED   MULTI STAGE

With trim   trimless



OPTION	CODE
Trim-flange	T
Non Trim-flange	NT
ORDERING	CODE
TR1C-12-60-D	

DRIVER COMPATIBILITY GUIDE



**DIMMING DRIVER WIRING SCHEMES ;**  
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Electronic 180~295Vac	D
DALI dimmable electronic 200~240Vac	DA
Electronic 0-10V Dimming 180~295Vac	DD





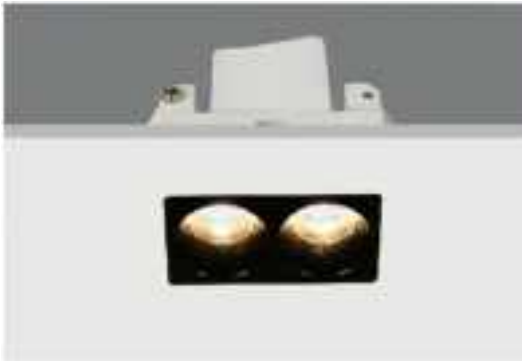
RAMOS\_4.2W

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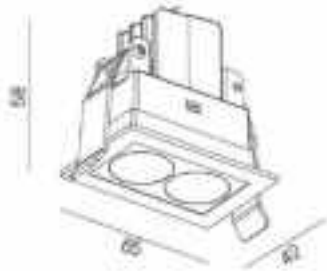
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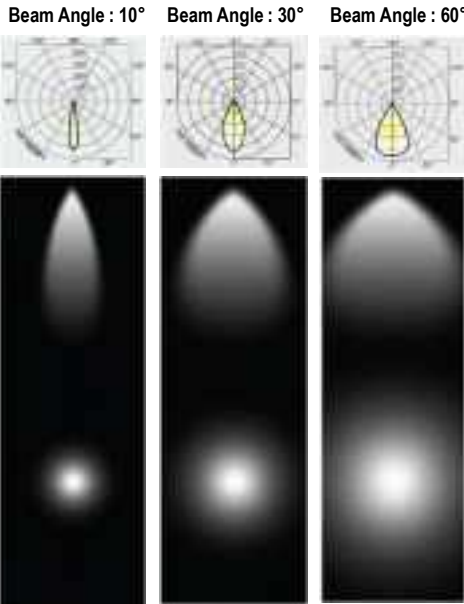


INNOVATION PROGRAM   NANO TECHNOLOGY   HYBRID LED   MULTI STAGE

With trim   trimless

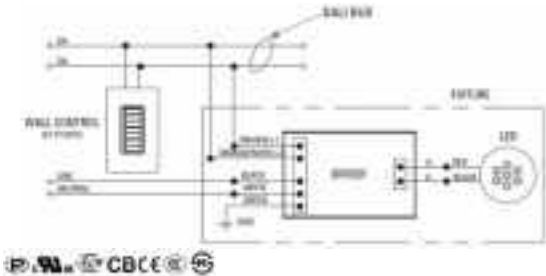


FIXTURE POWER	4.2W	
KEVIN_CCT	3000K	4000K
EQUIVALENCE		
FIXTURE FLUX_lm	>190	>200
Option	Trim   Trimless	
EFFICACY_lm/W	>45	>48
LUX@1m	>1,400_30°	
CRI_Ra	>95	
CTA_R9	>90	
SDCM_MacAdam	<3	
BEAM IMAGE	Single Shadow	
BEAM ANGLE_°	10°   30°   60°	



OPTION		CODE
	Trim-flange	T
	Non Trim-flange	NT
ORDERING		CODE
RM1C-4-60-D		

DRIVER COMPATIBILITY GUIDE



**DIMMING DRIVER WIRING SCHEMES ;**  
Note : Wiring diagrams are examples of typical installations intended to illustrate the number of wires that must be run to fixture. These diagrams are not intended to specify all equipment necessary for a given dimming circuit. Refer to specific dimmer manufacture's documentation for details.

Electronic 180~295Vac	D
DALI dimmable electronic 200~240Vac	DA
Electronic 0-10V Dimming 180~295Vac	DD

# aSKa® | GRAZER SPOT DOWNLIGHT



## RAMOS\_10.5W

Grazer Linear revolutionises the concept of the downlight. The product with miniaturised optic, providing high visual comfort, uses the physical principle of pinpoint lamps, generating circular light emission.

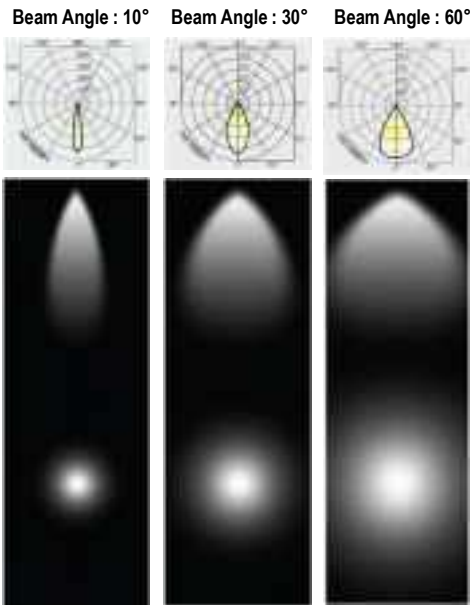
No more rigid frameworks, but instead ample opportunities for customisation. INNOVATIVE PROGRAM in its simplicity, Grazer Linear is the result of an integrated process involving various disciplines: the science of lighting, technology, design and culture.

The system is a multiple, flexible, universal tool.

Grazer Linear has received prestigious international awards.



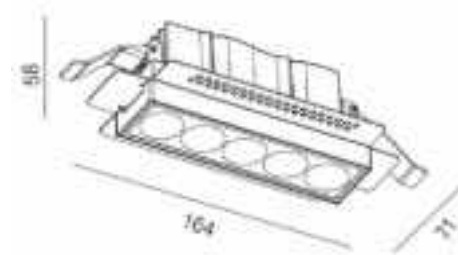
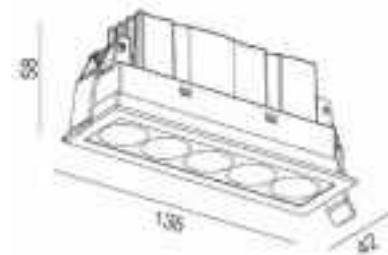
FIXTURE POWER	10.5W	
KEVIN_CCT	3000K	4000K
EQUIVALENCE		
FIXTURE FLUX_lm	>470	>500
Option	Trim   Trimless	
EFFICACY_lm/W	>45	>48
LUX@1m	>2,700_30°	
CRI_Ra	>95	
CTA_R9	>90	
SDCM_MacAdam	<3	
BEAM IMAGE	Single Shadow	
BEAM ANGLE_°	10°   30°   60°	



## INNOVATION PROGRAM    NANO TECHNOLOGY    HYBRID LED    MULTI STAGE

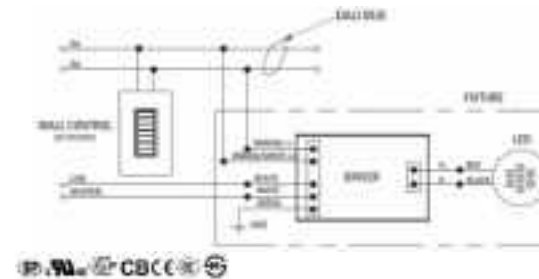
With trim

trimless



OPTION	CODE
Trim-flange	T
Non Trim-flange	NT
ORDERING	CODE
RM1C-10-60-D	

## DRIVER COMPATIBILITY GUIDE



**DIMMING DRIVER WIRING SCHEMES ;**  
Note : Wiring diagrams are examples of typical installations intended to illustrate the number of wires that must be run to fixture. These diagrams are not intended to specify all equipment necessary for a given dimming circuit. Refer to specific dimmer manufacture's documentation for details.

Electronic 180~295Vac	D
DALI dimmable electronic 200~240Vac	DA
Electronic 0-10V Dimming 180~295Vac	DD



RAMOS\_21W

Grazer Linear revolutionises the concept of the downlight. The product with miniaturised optic, providing high visual comfort, uses the physical principle of pinpoint lamps, generating circular light emission.

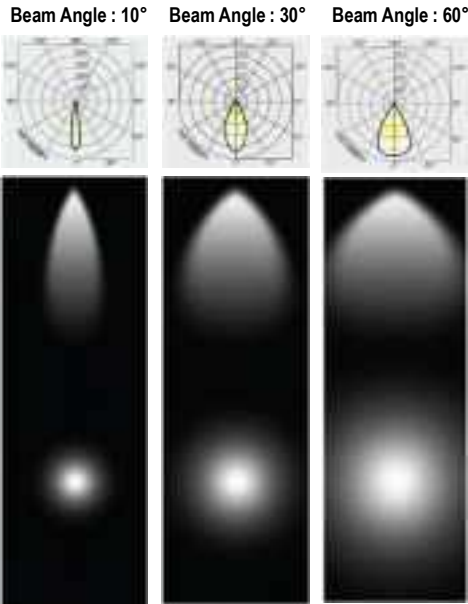
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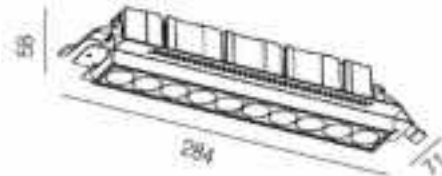
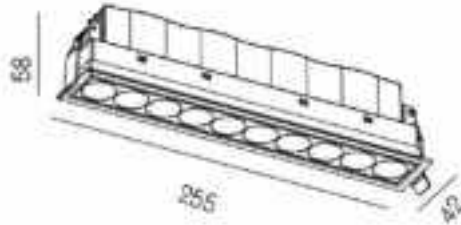


FIXTURE POWER	21W	
KEVIN_CCT	3000K	4000K
EQUIVALENCE		
FIXTURE FLUX_lm	530	580
Option	Trim   Trimless	
EFFICACY_lm/W	>45	>48
LUX@1m	>5,500_30°	
CRI_Ra	>95	
CTA_R9	>90	
SDCM_MacAdam	<3	
BEAM IMAGE	Single Shadow	
BEAM ANGLE_°	10°   30°   60°	



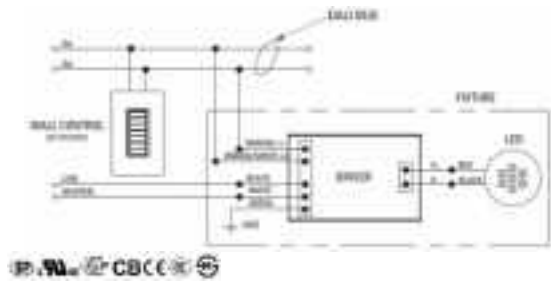
INNOVATION PROGRAM    NANO TECHNOLOGY    HYBRID LED    MULTI STAGE

With trim    trimless



OPTION	CODE
Trim-flange	T
Non Trim-flange	NT
ORDERING	CODE
RM1C-21-60-D	

DRIVER COMPATIBILITY GUIDE



**DIMMING DRIVER WIRING SCHEMES ;**  
Note : Wiring diagrams are examples of typical installations intended to illustrate the number of wires that must be run to fixture. These diagrams are not intended to specify all equipment necessary for a given dimming circuit. Refer to specific dimmer manufacture's documentation for details.

Electronic 180~295Vac	D
DALI dimmable electronic 200~240Vac	DA
Electronic 0-10V Dimming 180~295Vac	DD



# aSKa® I DUO GRAZER SPOT DOWNLIGHT



## RAMOS\_10.5W\*2

Grazer Linear revolutionises the concept of the downlight. The product with miniaturised optic, providing high visual comfort, uses the physical principle of pinpoint lamps, generating circular light emission.

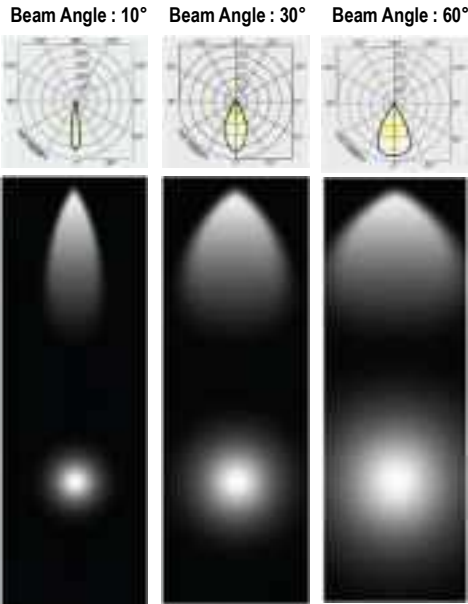
No more rigid frameworks, but instead ample opportunities for customisation. INNOVATIVE PROGRAM in its simplicity, Grazer Linear is the result of an integrated process involving various disciplines: the science of lighting, technology, design and culture.

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FIXTURE POWER	10.5W * 2	
KEVIN_CCT	3000K	4000K
EQUIVALENCE		
FIXTURE FLUX_lm	>470	>500
Option	Trim   Trimless	
EFFICACY_lm/W	>45	>48
LUX@1m	>2,700_30°	
CRI_Ra	>95	
CTA_R9	>90	
SDCM_MacAdam	<3	
BEAM IMAGE	Single Shadow	
BEAM ANGLE_°	10°   30°   60°	



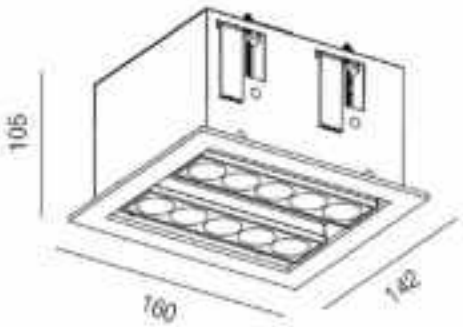
INNOVATION PROGRAM

NANO TECHNOLOGY

HYBRID LED

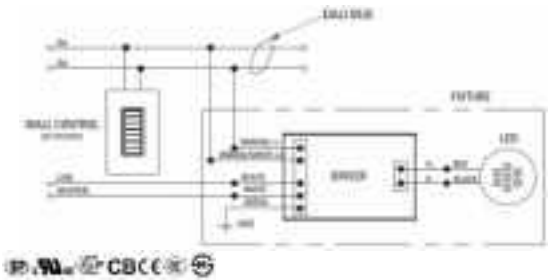
MULTI STAGE

Trim



OPTION	CODE
Trim-flange	T
Non Trim-flange	NT
ORDERING	CODE
RM1C-102-60-D	

### DRIVER COMPATIBILITY GUIDE



**DIMMING DRIVER WIRING SCHEMES ;**  
Note : Wiring diagrams are examples of typical installations intended to illustrate the number of wires that must be run to fixture. These diagrams are not intended to specify all equipment necessary for a given dimming circuit. Refer to specific dimmer manufacture's documentation for details.

Electronic 180~295Vac	D
DALI dimmable electronic 200~240Vac	DA
Electronic 0-10V Dimming 180~295Vac	DD

# aSKa® I DUO GRAZER SPOT DOWNLIGHT



## RAMOS\_21W\*2

Grazer Linear revolutionises the concept of the downlight. The product with miniaturised optic, providing high visual comfort, uses the physical principle of pinpoint lamps, generating circular light emission.

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The system is a multiple, flexible, universal tool.

Grazer Linear has received prestigious international awards.



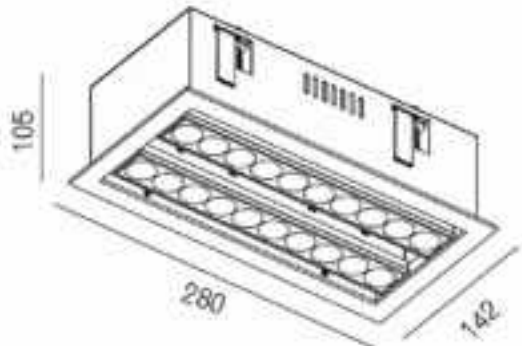
INNOVATION PROGRAM

NANO TECHNOLOGY

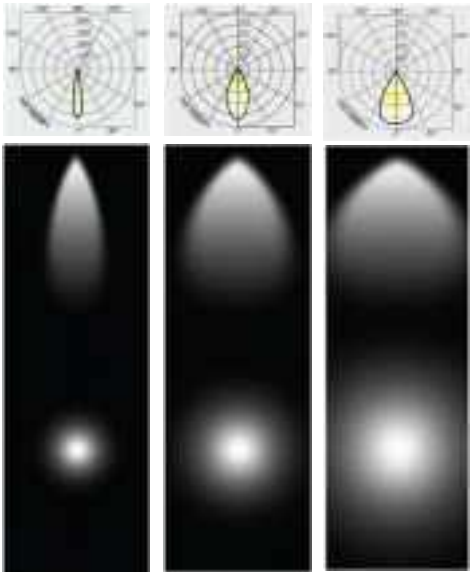
HYBRID LED

MULTI STAGE

Trim



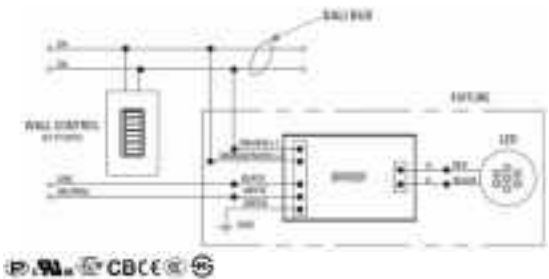
Beam Angle : 10°    Beam Angle : 30°    Beam Angle : 60°



FIXTURE POWER	21W	
KEVIN_CCT	3000K	4000K
EQUIVALENCE		
FIXTURE FLUX_lm	530	580
Option	Trim   Trimless	
EFFICACY_lm/W	>45	>48
LUX@1m	>5,500_30°	
CRI_Ra	>95	
CTA_R9	>90	
SDCM_MacAdam	<3	
BEAM IMAGE	Single Shadow	
BEAM ANGLE_°	10°   30°   60°	

OPTION		CODE
	Trim-flange	T
	Non Trim-flange	NT
ORDERING		CODE
RM1C-212-60-D		

### DRIVER COMPATIBILITY GUIDE



### DIMMING DRIVER WIRING SCHEMES ;

Note : Wiring diagrams are examples of typical installations intended to illustrate the number of wires that must be run to fixture. These diagrams are not intended to specify all equipment necessary for a given dimming circuit. Refer to specific dimmer manufacture's documentation for details.

Electronic 180~295Vac	D
DALI dimmable electronic 200~240Vac	DA
Electronic 0-10V Dimming 180~295Vac	DD



RACEL\_10.5W

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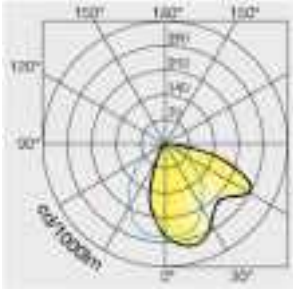
The system is a multiple, flexible, universal tool.

Grazer Linear has received prestigious international awards.



FIXTURE POWER	10.5W	
KEVIN_CCT	3000K	4000K
EQUIVALENCE		
FIXTURE FLUX_lm	>470	>500
Option	Trim	
EFFICACY_lm/W	>45	>48
LUX@1m	>170	
CRI_Ra	>95	
CTA_R9	>90	
SDCM_MacAdam	<3	
BEAM IMAGE	Single Shadow	
BEAM ANGLE_°	Asymmetric	

Beam : Asymmetric-Emission



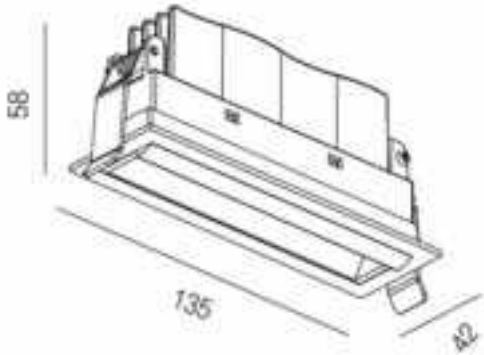
INNOVATION PROGRAM

ASYMMETRIC BEAM

HYBRID LED

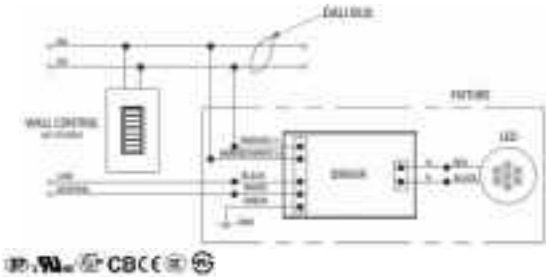
MULTI STAGE

Trim



OPTION	CODE
<input checked="" type="checkbox"/> Trim-flange	T
<input type="checkbox"/> Non Trim-flange	NT
ORDERING	CODE
RC1C-10-60-D	

DRIVER COMPATIBILITY GUIDE



**DIMMING DRIVER WIRING SCHEMES ;**  
Note : Wiring diagrams are examples of typical installations intended to illustrate the number of wires that must be run to fixture. These diagrams are not intended to specify all equipment necessary for a given dimming circuit. Refer to specific dimmer manufacture's documentation for details.

Electronic 180~295Vac	D
DALI dimmable electronic 200~240Vac	DA
Electronic 0-10V Dimming 180~295Vac	DD





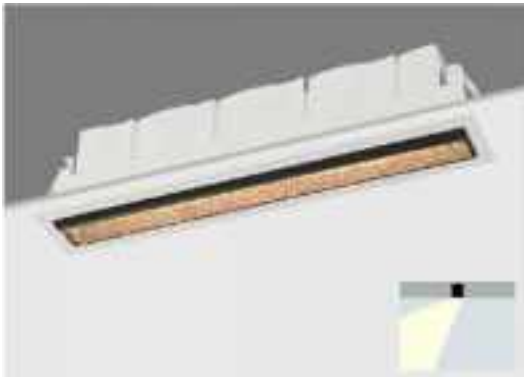
RACEL\_21W

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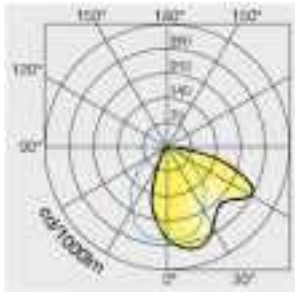
The system is a multiple, flexible, universal tool.

Grazer Linear has received prestigious international awards.



FIXTURE POWER	21W	
KEVIN_CCT	3000K	4000K
EQUIVALENCE		
FIXTURE FLUX_lm	530	580
Option	Trim	
EFFICACY_lm/W	>45	>48
LUX@1m	>5,500_30°	
CRI_Ra	>95	
CTA_R9	>90	
SDCM_MacAdam	<3	
BEAM IMAGE	Single Shadow	
BEAM ANGLE_°	Asymmetric	

Beam : Asymmetric-Emission



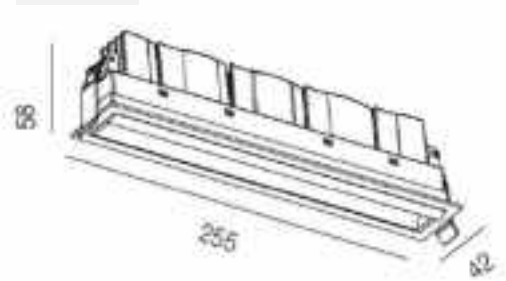
INNOVATION PROGRAM

ASYMMETRIC BEAM

HYBRID LED

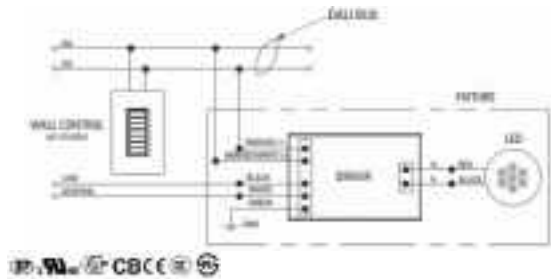
MULTI STAGE

Trim



OPTION	CODE
Trim-flange	T
Non Trim-flange	NT
ORDERING	CODE
RC1C-10-60-D	

DRIVER COMPATIBILITY GUIDE



<b>DIMMING DRIVER WIRING SCHEMES ;</b> Note : Wiring diagrams are examples of typical installations intended to illustrate the number of wires that must be run to fixture. These diagrams are not intended to specify all equipment necessary for a given dimming circuit. Refer to specific dimmer manufacture's documentation for details.	
Electronic 180~295Vac	D
DALI dimmable electronic 200~240Vac	DA
Electronic 0-10V Dimming 180~295Vac	DD

# aSKa® | EYEBALL BLADE DOWNLIGHT



## COCO\_2.4W

ADJUSTABLE EYEBALL BLADE DOWNLIGHT revolutionises the new concept of the downlight.

The product with miniaturised optic, providing high visual comfort, uses the physical principle of pinpoint lamps, generating circular light emission.

No more rigid frameworks, but instead ample opportunities for customization. INNOVATIVE PROGRAM in its simplicity, Eyeball Blade Linear is the result of an integrated process involving various disciplines: the science of lighting, technology, design and culture.

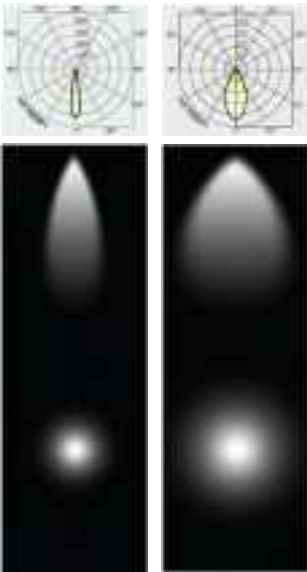
The system is a multiple, flexible, universal tool.

Eyeball Blade Linear has received prestigious international awards.

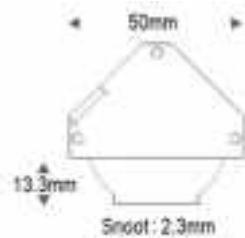
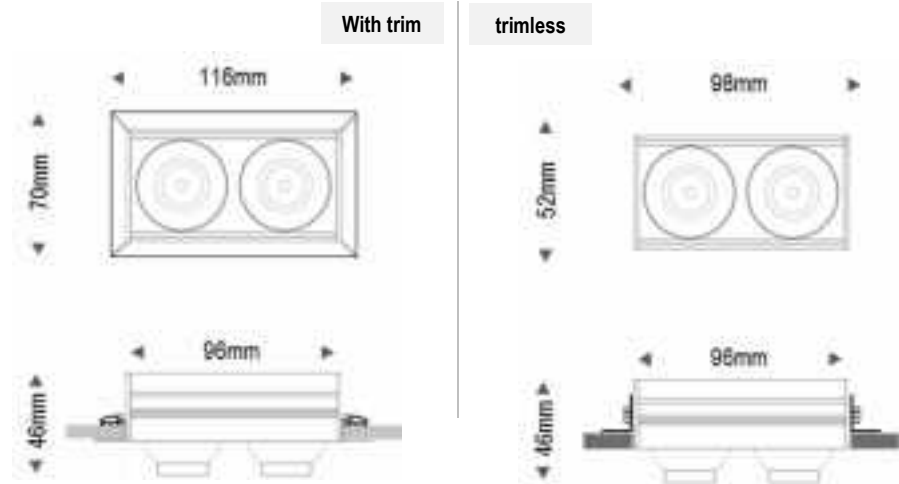


FIXTURE POWER	1.2W * 2	
KEVIN_CCT	3000K	4000K
EQUIVALENCE		
FIXTURE FLUX_lm	168	174
Trim	With trim	
EFFICACY_lm/W	>70	>72
LUX@_5_Per lamp	>2,700_10°   >1,000_30°	
CRI_Ra	>95	
CTA_R9	>90	
SDCM_MacAdam	<3	
BEAM IMAGE	Single Shadow	
BEAM ANGLE_°	10°   30°	

Beam Angle : 10°      Beam Angle : 30°

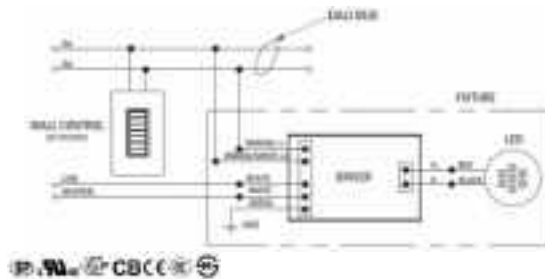


## INNOVATION PROGRAM   NANO TECHNOLOGY   HYBRID LED   MULTI STAGE



OPTION		CODE
<input type="checkbox"/>	Trim-flange	T
<input type="checkbox"/>	Non Trim-flange	NT
SNOOT ACCESSORY		CODE
<input type="checkbox"/>	10mm	S10
<input type="checkbox"/>	30mm	S30
ORDERING		CODE
CC1C-24-30-DA-L		

## DRIVER COMPATIBILITY GUIDE



DIMMING DRIVER WIRING SCHEMES ;	
Note : Wiring diagrams are examples of typical installations intended to illustrate the number of wires that must be run to fixture. These diagrams are not intended to specify all equipment necessary for a given dimming circuit. Refer to specific dimmer manufacture's documentation for details.	
Electronic 180~295Vac	D
DALI dimmable electronic 200~240Vac	DA
Electronic 0-10V Dimming 180~295Vac	DD

# aSKa® | EYEBALL BLADE DOWNLIGHT



## COCO\_4.8W

Grazer Linear revolutionises the concept of the downlight. The product with miniaturised optic, providing high visual comfort, uses the physical principle of pinpoint lamps, generating circular light emission.

No more rigid frameworks, but instead ample opportunities for customisation. INNOVATIVE PROGRAM in its simplicity, Grazer Linear is the result of an integrated process involving various disciplines: the science of lighting, technology, design and culture.

The system is a multiple, flexible, universal tool.

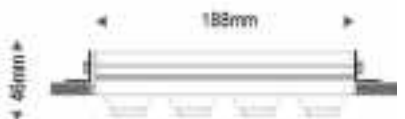
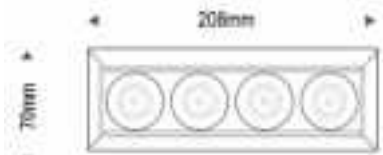
Grazer Linear has received prestigious international awards.



### INNOVATION PROGRAM | NANO TECHNOLOGY | HYBRID LED | MULTI STAGE

With trim

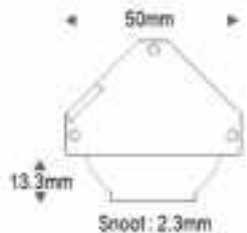
trimless



4.8W  
LED

Beam Angle : 10°

Beam Angle : 30°



#### OPTION



Trim-flange

#### CODE

T



Non Trim-flange

NT

#### SNOOT ACCESSORY



10mm

#### CODE

S10



30mm

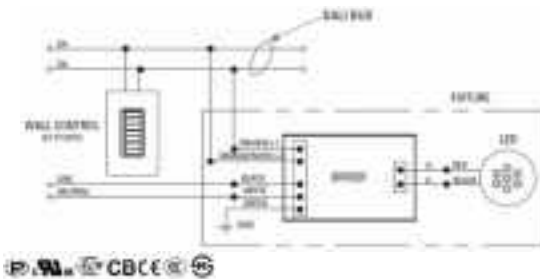
S30

#### ORDERING

CC1C-48-30-DA-L

#### CODE

#### DRIVER COMPATIBILITY GUIDE



#### DIMMING DRIVER WIRING SCHEMES ;

Note : Wiring diagrams are examples of typical installations intended to illustrate the number of wires that must be run to fixture. These diagrams are not intended to specify all equipment necessary for a given dimming circuit. Refer to specific dimmer manufacture's documentation for details.

Electronic 180~295Vac	D
DALI dimmable electronic 200~240Vac	DA
Electronic 0-10V Dimming 180~295Vac	DD



# aSKa® | EYEBALL BLADE DOWNLIGHT



## COCO\_7.2W

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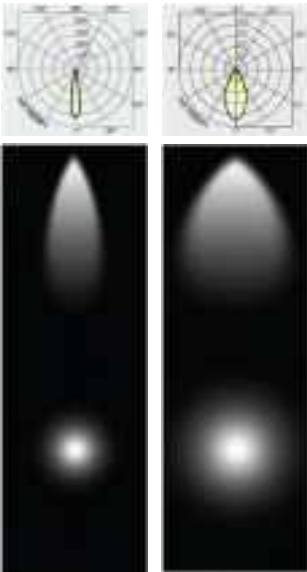
The system is a multiple, flexible, universal tool.

Grazer Linear has received prestigious international awards.



FIXTURE POWER	1.2W * 6	
KEVIN_CCT	3000K	4000K
EQUIVALENCE		
FIXTURE FLUX_lm	504	522
Trim	With trim	
EFFICACY_lm/W	>70	>72
LUX@_5_Per lamp	>2,700_10°   >1,000_30°	
CRI_Ra	>95	
CTA_R9	>90	
SDCM_MacAdam	<3	
BEAM IMAGE	Single Shadow	
BEAM ANGLE_°	10°   30°	

Beam Angle : 10°    Beam Angle : 30°



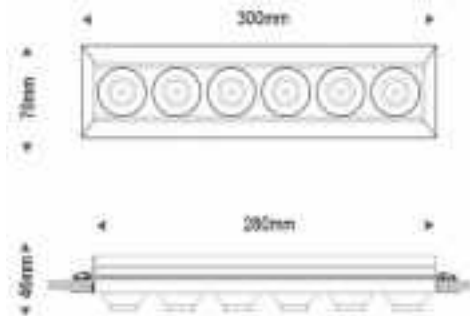
### INNOVATION PROGRAM

### NANO TECHNOLOGY

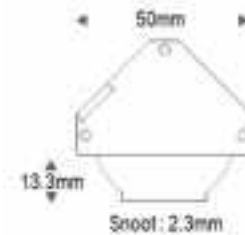
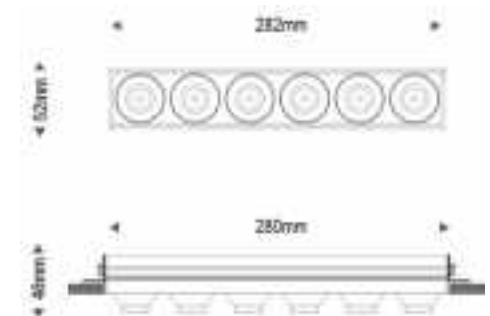
### HYBRID LED

### MULTI STAGE

#### With trim



#### trimless

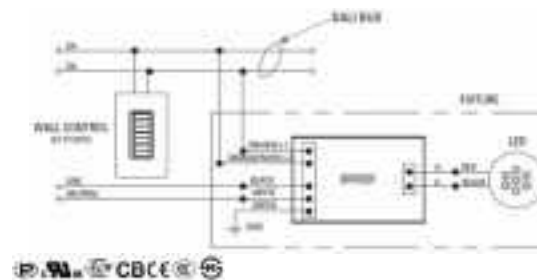


OPTION	CODE
Trim-flange	T
Non Trim-flange	NT

SNOOT ACCESSORY	CODE
10mm	S10
30mm	S30

ORDERING	CODE
CC1C-72-30-DA-L	

### DRIVER COMPATIBILITY GUIDE



#### DIMMING DRIVER WIRING SCHEMES ;

Note : Wiring diagrams are examples of typical installations intended to illustrate the number of wires that must be run to fixture. These diagrams are not intended to specify all equipment necessary for a given dimming circuit. Refer to specific dimmer manufacture's documentation for details.

Electronic 180~295Vac	D
DALI dimmable electronic 200~240Vac	DA
Electronic 0-10V Dimming 180~295Vac	DD



PTG's successful aSKa and aSKa Pro Range of architectural grade luminaires has now been expanded to encompass a wide selection of LED ceiling light modules embracing the latest technology available in the market place.

With PTG's new "ACCENT COMPACT SPOT" Warm Dim modules added to the already extensive programme of LED modules from MICRO CYLINDER Engine.

plus our own micro cylinder engine 3W modules we feel that we have the low energy solution to many applications, be it hospitality, luxury retail maison, commercial or residential.

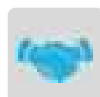
LED technology is seriously challenging conventional light sources not only in lumen output and colour rendition but also in size and affordability finally allowing the lighting professional to design with green credentials.



MULTIDISCIPLINARY APPROACH



LOW TOTAL OPERATING COSTS



STRONG PARTNERSHIP



LIGHT QUALITY



LED LIGHTING EXPERIENCE



ENVIRONMENT



PROPRIETARY TECHNOLOGY AND INTELLECTUAL PROPERTY



EASE OF INSTALLATION



BEST OF BREED PRODUCTS



INNOVATIVE DESIGN



CTA\_R9 NANO TECHNOLOGY



NANO MATERIALS SCIENCE AND ANALYSIS



MICROINFORMATION SYSTEMS



ENERGY EFFICIENCY



## REO

ACCENT COMPACT SPOT LED LIGHT is composed by an adjustable head that mounts 1 4H Hybrid LEDs with built-in NANO Micro Pattern optic lens and Graphene thermal technology.

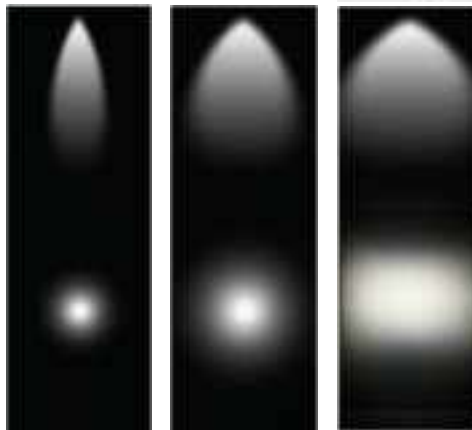
Great lux and High R9\_>90, CRI\_>95 output but small consumption: the global efficacy is 65 lm/W.

Three different lenses(10°, 30°, 30°\*60°) are available in order to provide a wide choice of beam angles.

The tilt bracket of ACCENT COMPACT SPOT that is adjustable in height and that can be oriented around its vertical axis, once adjusted, disappears under the panel of cabinets, showcases and displays.



Beam Angle : 10°    Beam Angle : 30°    Beam Angle : 30° \*60°



FIXTURE POWER	3W	
MODEL No.	RE1C	RE1D
KEVIN_CCT	3000K	3500K
EQUIVALENCE	Halogen 50W	
FIXTURE FLUX_lm	195	195
EFFICACY_lm/W	>65	>65
LUX@.5m=50W Hal	>4,500_10°   >2700_30°   >2,200_30°*60°	
CRI_Ra	>95	
CTA_R9	>90	
SDCM_MacAdam	<3	
BEAM IMAGE	Single Shadow	
BEAM ANGLE_°	10°   30°   30°*60°	



## MEO

ACCENT COMPACT SPOT LED LIGHT is composed by an adjustable head that mounts 1 4H Hybrid LEDs with built-in NANO Micro Pattern optic lens and Graphene thermal technology.

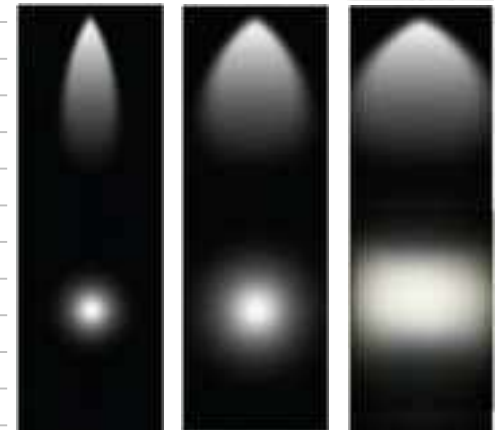
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Beam Angle : 10°    Beam Angle : 30°    Beam Angle : 30° \*60°



FIXTURE POWER	3W	
MODEL No.	ME1C	ME1D
KEVIN_CCT	3000K	3500K
EQUIVALENCE	Halogen 50W	
FIXTURE FLUX_lm	195	195
EFFICACY_lm/W	>65	>65
LUX@.5m=50W Hal	>4,500_10°   >2700_30°   >2,200_30°*60°	
CRI_Ra	>95	
CTA_R9	>90	
SDCM_MacAdam	<3	
BEAM IMAGE	Single Shadow	
BEAM ANGLE_°	10°   30°   30°*60°	



## TEO

ACCENT COMPACT SPOT LED LIGHT is composed by an adjustable head that mounts 1 4H Hybrid LEDs with built-in NANO Micro Pattern optic lens and Graphene thermal technology.

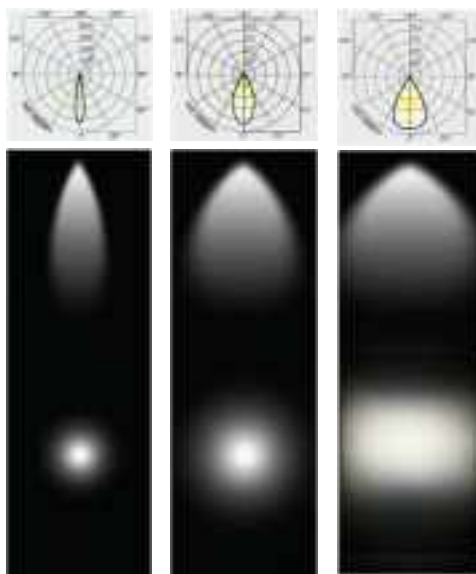
Great lux and High R9\_>90, CRI\_>95 output but small consumption: the global efficacy is 65 lm/W.

Three different lenses(10°, 30°, 30°\*60°) are available in order to provide a wide choice of beam angles.

The tilt bracket of ACCENT COMPACT SPOT that is adjustable in height and that can be oriented around its vertical axis, once adjusted, disappears under the panel of cabinets, showcases and displays



Beam Angle : 10° Beam Angle : 30° Beam Angle : 30° \*60°



FIXTURE POWER	3W	
MODEL No.	TE1C	TE1D
KEVIN_CCT	3000K	3500K
EQUIVALENCE	Halogen 50W	
FIXTURE FLUX_lm	195	195
EFFICACY_lm/W	>65	>65
LUX@.5m=50W Hal	>4,500_10°   >2700_30°   >2,200_30°*60°	
CRI_Ra	>95	
CTA_R9	>90	
SDCM_MacAdam	<3	
BEAM IMAGE	Single Shadow	
BEAM ANGLE_°	10°   30°   30°*60°	



## POLEO

ACCENT COMPACT SPOT LED LIGHT is composed by an adjustable head that mounts 1 4H Hybrid LEDs with built-in NANO Micro Pattern optic lens and Graphene thermal technology.

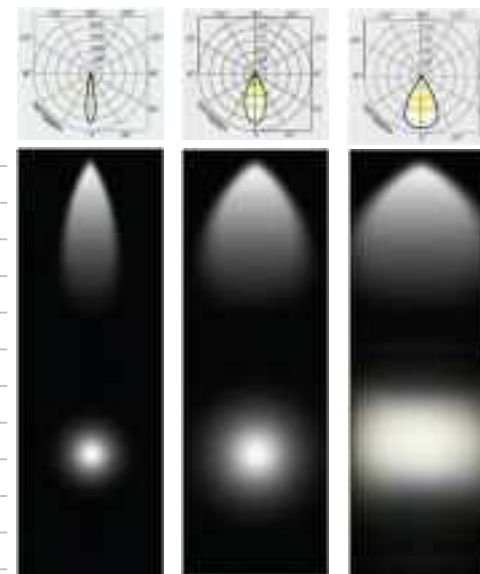
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The tilt bracket of ACCENT COMPACT SPOT that is adjustable in height and that can be oriented around its vertical axis, once adjusted, disappears under the panel of cabinets, showcases and displays



Beam Angle : 10° Beam Angle : 30° Beam Angle : 30° \*60°



FIXTURE POWER	3W	
MODEL No.	PO1C	PO1D
KEVIN_CCT	3000K	3500K
EQUIVALENCE	Halogen 50W	
FIXTURE FLUX_lm	195	195
EFFICACY_lm/W	>65	>65
LUX@.5m=50W Hal	>4,500_10°   >2700_30°   >2,200_30°*60°	
CRI_Ra	>95	
CTA_R9	>90	
SDCM_MacAdam	<3	
BEAM IMAGE	Single Shadow	
BEAM ANGLE_°	10°   30°   30°*60°	





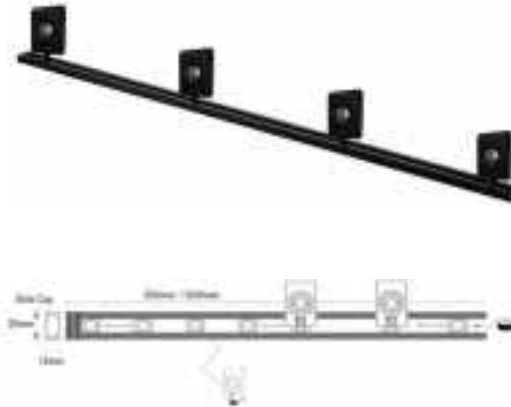
## RIMO

ACCENT COMPACT SPOT LED LIGHT is composed by an adjustable head that mounts 1 4H Hybrid LEDs with built-in NANO Micro Pattern optic lens and Graphene thermal technology.

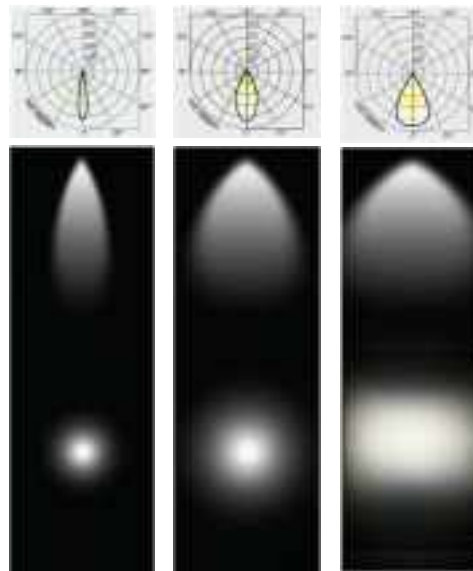
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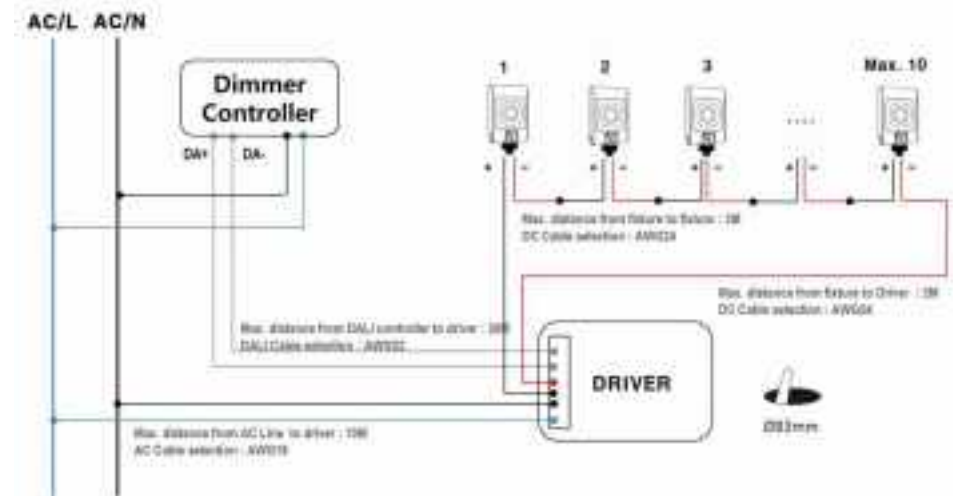


Beam Angle : 10°    Beam Angle : 30°    Beam Angle : 30° \*60°



FIXTURE POWER	3W	
MODEL No.	RI1C	RI1D
KEVIN_CCT	3000K	3500K
EQUIVALENCE	Halogen 50W	
FIXTURE FLUX_lm	195	195
EFFICACY_lm/W	>65	>65
LUX@.5m=50W Hal	>4,500_10°   >2700_30°   >2,200_30°*60°	
CRI_Ra	>95	
CTA_R9	>90	
SDCM_MacAdam	<3	
BEAM IMAGE	Single Shadow	
BEAM ANGLE_°	10°   30°   30°*60°	

## CONNECTION

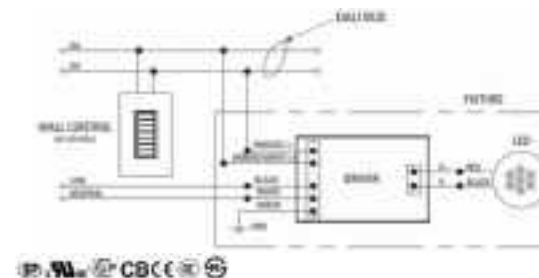


## ORDERING

XX1C-3-60-DA-L

## CODE

## DRIVER COMPATIBILITY GUIDE



### DIMMING DRIVER WIRING SCHEMES ;

Note : Wiring diagrams are examples of typical installations intended to illustrate the number of wires that must be run to fixture. These diagrams are not intended to specify all equipment necessary for a given dimming circuit. Refer to specific dimmer manufacture's documentation for details.

Electronic 180~295Vac	D
DALI dimmable electronic 200~240Vac	DA
Electronic 0-10V Dimming 180~295Vac	DD



PTG's successful aSKa and aSKa Pro Range of architectural grade luminaires has now been expanded to encompass a wide selection of LED ceiling light modules embracing the latest technology available in the market place.

With PTG's new "ADJUSTABLE MINI BALL COMPACT SPOT" Warm Dim modules added to the already extensive programme of LED modules from MINI BALL Engine.

plus our own micro cylinder engine 3W modules we feel that we have the low energy solution to many applications, be it hospitality, luxury retail maison, commercial or residential.

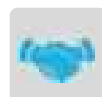
LED technology is seriously challenging conventional light sources not only in lumen output and colour rendition but also in size and affordability finally allowing the lighting professional to design with green credentials.



MULTIDISCIPLINARY APPROACH



LOW TOTAL OPERATING COSTS



STRONG PARTNERSHIP



LIGHT QUALITY



LED LIGHTING EXPERIENCE



ENVIRONMENT



PROPRIETARY TECHNOLOGY AND INTELLECTUAL PROPERTY



EASE OF INSTALLATION



BEST OF BREED PRODUCTS



INNOVATIVE DESIGN



CTA\_R9 NANO TECHNOLOGY



NANO MATERIALS SCIENCE AND ANALYSIS



MICROINFORMATION SYSTEMS



ENERGY EFFICIENCY

# aSKa® | BALL COMPACT SPOT



## ROCCO

ADJUSTABLE MINI BALL COMPACT SPOT LED LIGHT is composed by an adjustable head that mounts 1 4H Hybrid LEDs with built-in NANO Micro Pattern optic lens and Graphene thermal technology.

Great lux and High R9\_>90, CRI\_>95 output but small consumption: the global efficacy is 65 lm/W.

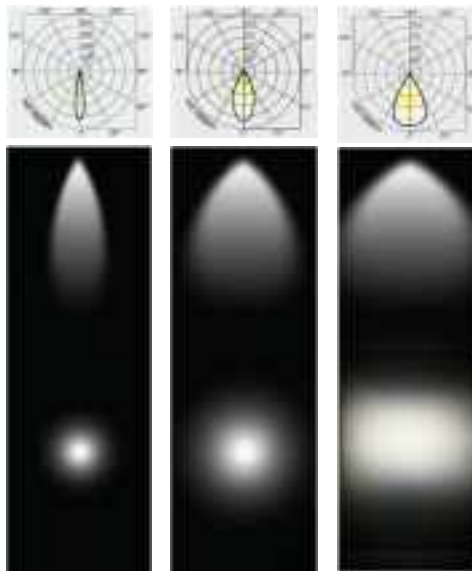
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The tilt bracket of MINI BALL COMPACT SPOT that is adjustable in height and that can be oriented around its vertical axis, once adjusted, disappears under the panel of cabinets, showcases and displays



FIXTURE POWER	1.2W	
MODEL No.	RC1C	RC1D
KEVIN_CCT	3000K	3500K
EQUIVALENCE	Halogen 50W	
FIXTURE FLUX_lm	>84	>84
EFFICACY_lm/W	>70	>70
LUX@.5m=50W Hal	>4,500_10°   >2700_30°   >2,200_30°*60°	
CRI_Ra	>95	
CTA_R9	>90	
SDCM_MacAdam	<3	
BEAM IMAGE	Single Shadow	
BEAM ANGLE_°	10°   30°   30°*60°	

Beam Angle : 10°    Beam Angle : 30°    Beam Angle : 30° \*60°



# aSKa® | BALL COMPACT PUCK SPOT



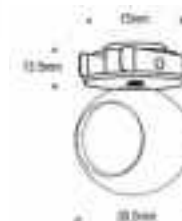
## TOSO

ADJUSTABLE MINI BALL COMPACT SPOT LED LIGHT is composed by an adjustable head that mounts 1 4H Hybrid LEDs with built-in NANO Micro Pattern optic lens and Graphene thermal technology.

Great lux and High R9\_>90, CRI\_>95 output but small consumption: the global efficacy is 65 lm/W.

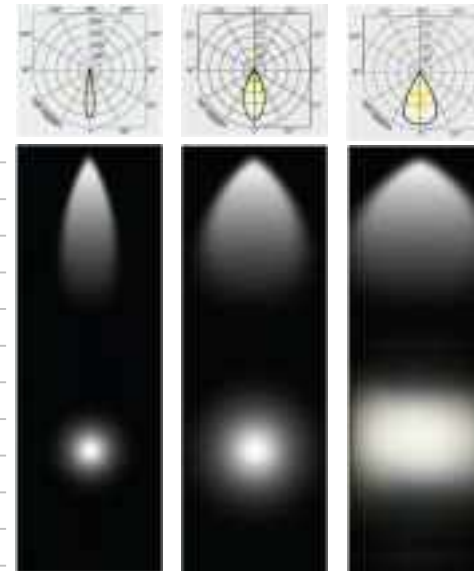
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The tilt bracket of MINI BALL COMPACT SPOT that is adjustable in height and that can be oriented around its vertical axis, once adjusted, disappears under the panel of cabinets, showcases and displays



FIXTURE POWER	1.2W	
MODEL No.	TS1C	TS1D
KEVIN_CCT	3000K	3500K
EQUIVALENCE	Halogen 50W	
FIXTURE FLUX_lm	>84	>84
EFFICACY_lm/W	>70	>70
LUX@.5m=50W Hal	>4,500_10°   >2700_30°   >2,200_30°*60°	
CRI_Ra	>95	
CTA_R9	>90	
SDCM_MacAdam	<3	
BEAM IMAGE	Single Shadow	
BEAM ANGLE_°	10°   30°   30°*60°	

Beam Angle : 10°    Beam Angle : 30°    Beam Angle : 30° \*60°



# aSKa® | BALL COMPACT SURFACE SPOT



## MOSIO

ADJUSTABLE MINI BALL COMPACT SPOT LED LIGHT is composed by an adjustable head that mounts 1 4H Hybrid LEDs with built-in NANO Micro Pattern optic lens and Graphene thermal technology.

Great lux and High R9\_>90, CRI\_>95 output but small consumption: the global efficacy is 65 lm/W.

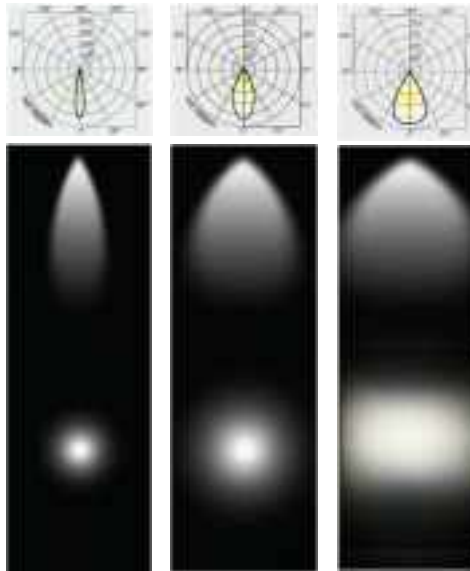
Three different lenses(10°, 30°, 30°\*60°) are available in order to provide a wide choice of beam angles.

The tilt bracket of MINI BALL COMPACT SPOT that is adjustable in height and that can be oriented around its vertical axis, once adjusted, disappears under the panel of cabinets, showcases and displays



FIXTURE POWER	1.2W	
MODEL No.	MS1C	MS1D
KEVIN_CCT	3000K	3500K
EQUIVALENCE	Halogen 50W	
FIXTURE FLUX_lm	>84	>84
EFFICACY_lm/W	>70	>70
LUX@.5m=50W Hal	>4,500_10°   >2700_30°   >2,200_30°*60°	
CRI_Ra	>95	
CTA_R9	>90	
SDCM_MacAdam	<3	
BEAM IMAGE	Single Shadow	
BEAM ANGLE_°	10°   30°   30°*60°	

Beam Angle : 10°    Beam Angle : 30°    Beam Angle : 30 ° \*60°



# aSKa® | BALL COMPACT POLE SPOT



## ALTO

ADJUSTABLE MINI BALL COMPACT SPOT LED LIGHT is composed by an adjustable head that mounts 1 4H Hybrid LEDs with built-in NANO Micro Pattern optic lens and Graphene thermal technology.

Great lux and High R9\_>90, CRI\_>95 output but small consumption: the global efficacy is 65 lm/W.

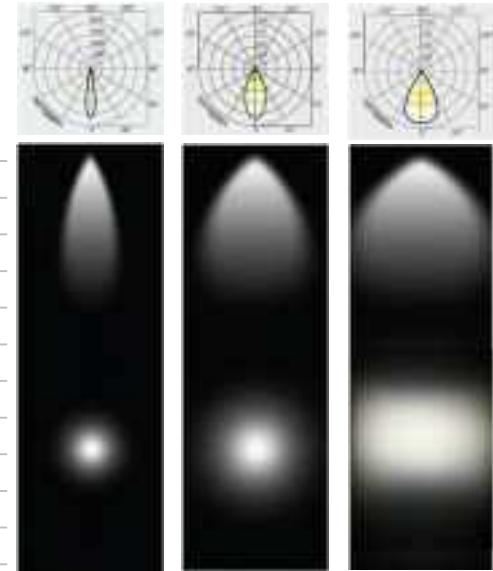
Three different lenses(10°, 30°, 30°\*60°) are available in order to provide a wide choice of beam angles.

The tilt bracket of MINI BALL COMPACT SPOT that is adjustable in height and that can be oriented around its vertical axis, once adjusted, disappears under the panel of cabinets, showcases and displays



FIXTURE POWER	1.2W	
MODEL No.	AL1C	AL1D
KEVIN_CCT	3000K	3500K
EQUIVALENCE	Halogen 50W	
FIXTURE FLUX_lm	>84	>84
EFFICACY_lm/W	>70	>70
LUX@.5m=50W Hal	>4,500_10°   >2700_30°   >2,200_30°*60°	
CRI_Ra	>95	
CTA_R9	>90	
SDCM_MacAdam	<3	
BEAM IMAGE	Single Shadow	
BEAM ANGLE_°	10°   30°   30°*60°	

Beam Angle : 10°    Beam Angle : 30°    Beam Angle : 30 ° \*60°





# aSKa® | BALL CABINET ADJUSTABLE DOWNLIGHT



## TOGO

EYEBALL ADJUSTABLE MINI DOWNLIGHT is composed by an adjustable head that mounts 1 4H Hybrid LEDs with built-in NANO Micro Pattern optic lens and Graphene thermal technology.

Great lux and High R9 >90, CRI >95 output but small consumption: the global efficacy is 65 lm/W.

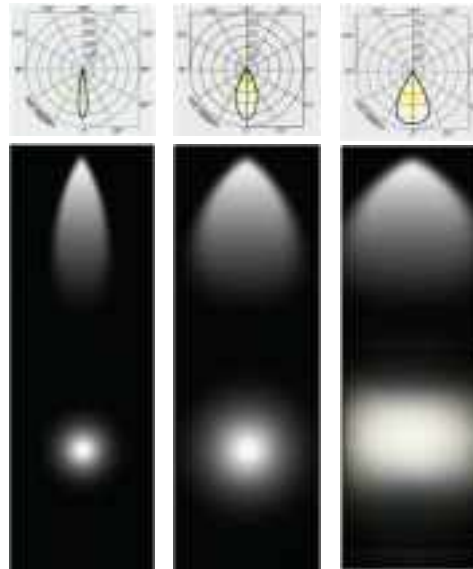
Three different lenses (10°, 30°, 30°\*60°) are available in order to provide a wide choice of beam angles.

The tilt bracket of EYEBALL ADJUSTABLE MINI PUCK DOWNLIGHT that is adjustable of eyeball engine and that can be oriented around its vertical axis, once adjusted, disappears under the panel of cabinets, showcases and displays

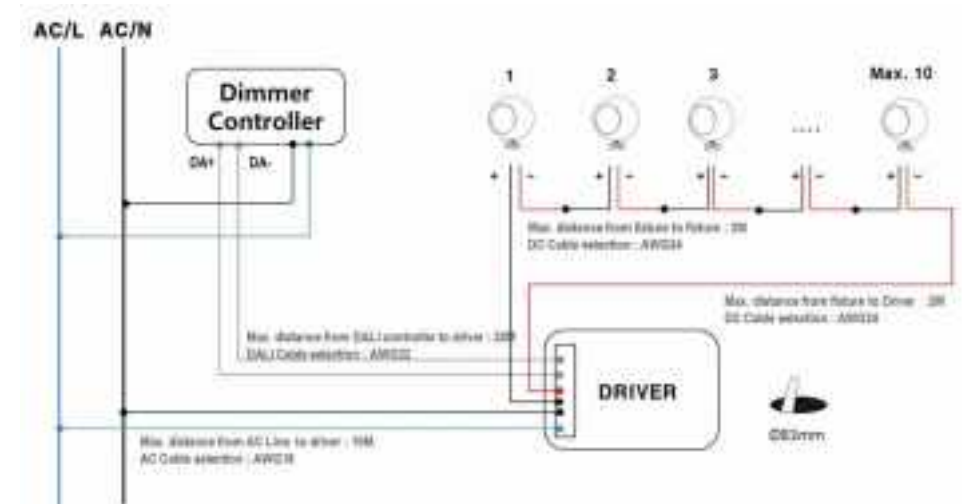


FIXTURE POWER	1.2W	
MODEL No.	TG1C	TG1D
KEVIN_CCT	3000K	3500K
EQUIVALENCE	Halogen 50W	
FIXTURE FLUX_lm	>84	>84
EFFICACY_lm/W	>70	>70
LUX@.5m=50W Hal	>4,500_10°   >2700_30°   >2,200_30°*60°	
CRI_Ra	>95	
CTA_R9	>90	
SDCM_MacAdam	<3	
BEAM IMAGE	Single Shadow	
BEAM ANGLE_°	10°   30°   30°*60°	

Beam Angle : 10°    Beam Angle : 30°    Beam Angle : 30° \*60°



## CONNECTION

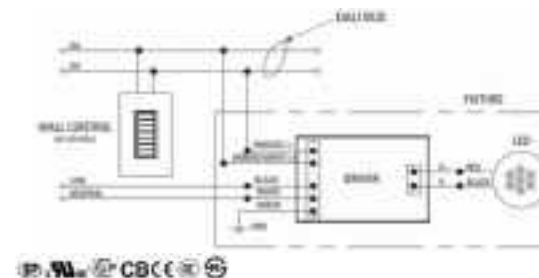


## ORDERING

XX1C-3-60-DA-L

## CODE

## DRIVER COMPATIBILITY GUIDE



## DIMMING DRIVER WIRING SCHEMES ;

Note : Wiring diagrams are examples of typical installations intended to illustrate the number of wires that must be run to fixture. These diagrams are not intended to specify all equipment necessary for a given dimming circuit. Refer to specific dimmer manufacture's documentation for details.

Electronic 180~295Vac	D
DALI dimmable electronic 200~240Vac	DA
Electronic 0-10V Dimming 180~295Vac	DD



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With PTG's new "EYEBALL LINEAR SPOT" Warm Dim modules added to the already extensive programme of LED modules from MICRO CYLINDER Engine.

plus our own micro cylinder engine 12 and 22 modules we feel that we have the low energy solution to many applications, be it hospitality, luxury retail maison, commercial or residential.

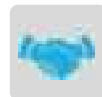
LED technology is seriously challenging conventional light sources not only in lumen output and colour rendition but also in size and affordability finally allowing the lighting professional to design with green credentials.



MULTIDISCIPLINARY APPROACH



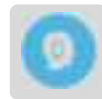
LOW TOTAL OPERATING COSTS



STRONG PARTNERSHIP



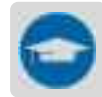
LIGHT QUALITY



LED LIGHTING EXPERIENCE



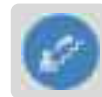
ENVIRONMENT



PROPRIETARY TECHNOLOGY AND INTELLECTUAL PROPERTY



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BEST OF BREED PRODUCTS



INNOVATIVE DESIGN



CTA\_R9 NANO TECHNOLOGY



NANO MATERIALS SCIENCE AND ANALYSIS



MICROINFORMATION SYSTEMS



ENERGY EFFICIENCY



## CRONO-01

EYEBALL Linear SPOT revolutionises the concept of the downlight. The product with NANO optic, providing high visual comfort, uses the physical principle of pinpoint lamps, generating circular light emission.

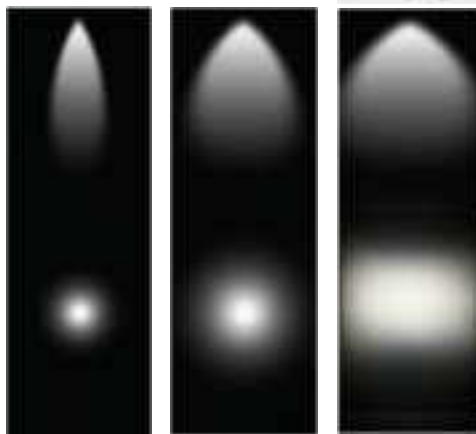
No more rigid frameworks, but instead ample opportunities for customization. INNOVATIVE PROGRAM in its simplicity, EYEBALL Linear SPOT is the result of an integrated process involving various disciplines: the science of lighting, technology, design and culture.

The system is a multiple, flexible, universal tool.

EYEBALL LINEAR SPOT has received prestigious international awards.



Beam Angle : 10°    Beam Angle : 30°    Beam Angle : 30° \* 60°



FIXTURE POWER	1.2W	
KEVIN_CCT	3000K	4000K
EQUIVALENCE	Halogen 18W	
FIXTURE FLUX_lm	>84	>84
EFFICACY_lm/W	>70	>70
LUX@.5m	>2,700_10°   >1,100_30°   >500_30°*60°	
CRI_Ra	>95	
CTA_R9	>90	
SDCM_MacAdam	<3	
BEAM IMAGE	Single Shadow	
BEAM ANGLE_°	10°   30°   30°*60°_Elliptical	



## CRONO-02

EYEBALL Linear SPOT revolutionises the concept of the downlight. The product with NANO optic, providing high visual comfort, uses the physical principle of pinpoint lamps, generating circular light emission.

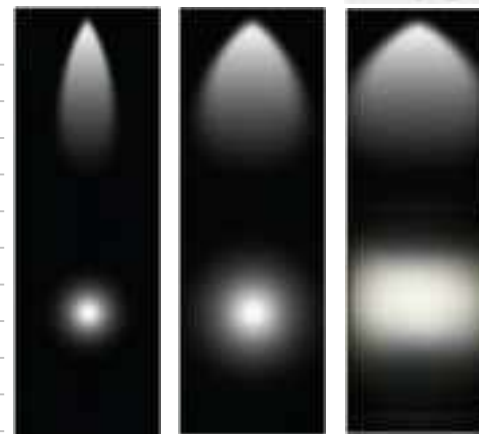
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Beam Angle : 10°    Beam Angle : 30°    Beam Angle : 30° \* 60°



FIXTURE POWER	1.2W*2	
KEVIN_CCT	3000K	4000K
EQUIVALENCE	Halogen 25W*2	
FIXTURE FLUX_lm	>168	>168
EFFICACY_lm/W	>70	>70
LUX@.5m_per lamp	>2,700_10°   >1,000_30°   >400_30°*60°	
CRI_Ra	>95	
CTA_R9	>90	
SDCM_MacAdam	<3	
BEAM IMAGE	Single Shadow	
BEAM ANGLE_°	10°   30°   30°*60°_Elliptical	





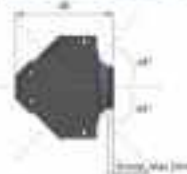
## CRONO-04

EYEBALL Linear SPOT revolutionises the concept of the downlight. The product with NANO optic, providing high visual comfort, uses the physical principle of pinpoint lamps, generating circular light emission.

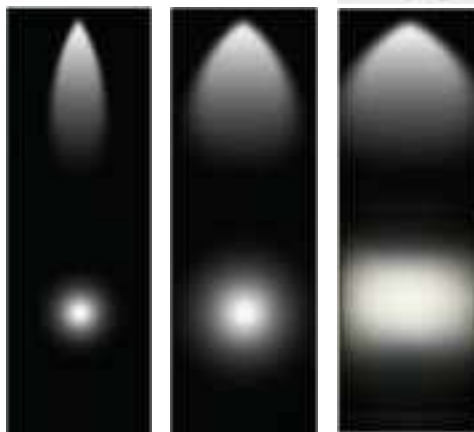
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Beam Angle : 10° Beam Angle : 30° Beam Angle : 30°\*60°



FIXTURE POWER	1.2W*4	
KEVIN_CCT	3000K	4000K
EQUIVALECE	Halogen 25W*4	
FIXTURE FLUX_lm	>336	>336
EFFICACY_lm/W	>70	>70
LUX@.5m	>2,700_10°   >1,000_30°   >400_30°*60°	
CRI_Ra	>95	
CTA_R9	>90	
SDCM_MacAdam	<3	
BEAM IMAGE	Single Shadow	
BEAM ANGLE_°	10°   30°   30°*60°_Elliptical	



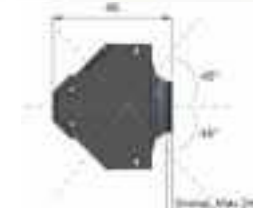
## CRONO-06

EYEBALL Linear SPOT revolutionises the concept of the downlight. The product with NANO optic, providing high visual comfort, uses the physical principle of pinpoint lamps, generating circular light emission.

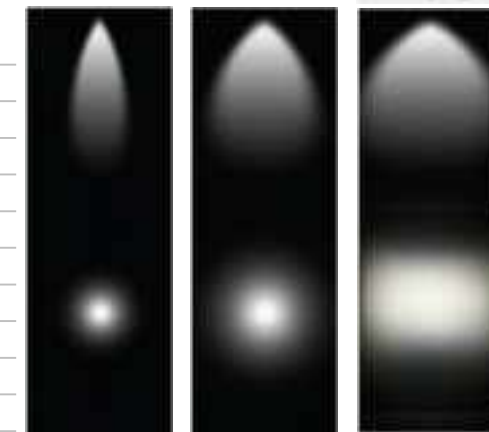
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Beam Angle : 10° Beam Angle : 30° Beam Angle : 30°\*60°



FIXTURE POWER	1.2W*6	
KEVIN_CCT	3000K	4000K
EQUIVALECE	Halogen 25W*6	
FIXTURE FLUX_lm	>504	>504
EFFICACY_lm/W	>70	>70
LUX@.5m	>2,700_10°   >1,000_30°   >400_30°*60°	
CRI_Ra	>95	
CTA_R9	>90	
SDCM_MacAdam	<3	
BEAM IMAGE	Single Shadow	
BEAM ANGLE_°	10°   30°   30°*60°_Elliptical	







PTG's successful aSKa and aSKa Pro Range of architectural grade luminaires has now been expanded to encompass a wide selection of LED ceiling light modules embracing the latest technology available in the market place.

With PTG's new "MINIATURE CABINET PUCK Downlight" Warm Dim modules added to the already extensive programme of LED modules from MICRO CYLINDER Engine.

plus our own micro cylinder engine 12 and 22 modules we feel that we have the low energy solution to many applications, be it hospitality, luxury retail maison, commercial or residential.

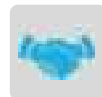
LED technology is seriously challenging conventional light sources not only in lumen output and colour rendition but also in size and affordability finally allowing the lighting professional to design with green credentials.



MULTIDISCIPLINARY APPROACH



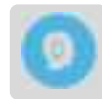
LOW TOTAL OPERATING COSTS



STRONG PARTNERSHIP



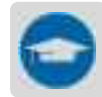
LIGHT QUALITY



LED LIGHTING EXPERIENCE



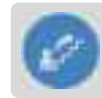
ENVIRONMENT



PROPRIETARY TECHNOLOGY AND INTELLECTUAL PROPERTY



EASE OF INSTALLATION



BEST OF BREED PRODUCTS



INNOVATIVE DESIGN



CTA\_R9 NANO TECHNOLOGY



NANO MATERIALS SCIENCE AND ANALYSIS



MICROINFORMATION SYSTEMS



ENERGY EFFICIENCY

# aSKa® | MINIATURE UNDER CABINET PUCK SPOT



## DOSH

MINIATURE UNDER CABINET PUCK DOWNLIGHT is for special decorative lighting in and under cabinets and display cases or as bright task lighting beneath cabinets.

Available in warm white or natural white, they can be surface mounted or recessed. Install individually or together in a series, limited only by the output rating of your DRIVER COMPATIBILITY GUIDE.

Provides DALI full range smooth dimming when used with DOSH Lighting LED dimmers.

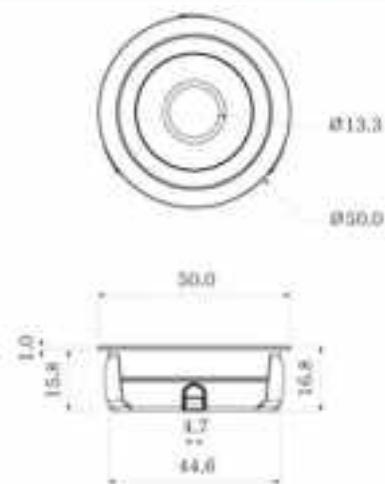


INNOVATION PROGRAM

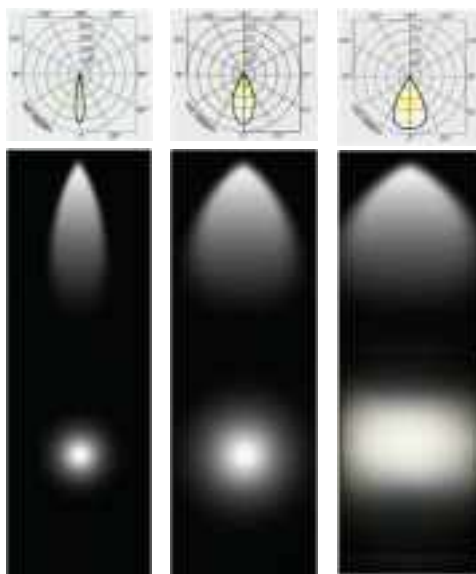
NANO TECHNOLOGY

HYBRID LED

MULTI STAGE



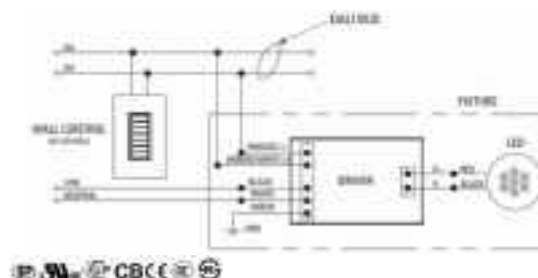
Beam Angle : 10° Beam Angle : 30° Beam Angle : 30°\*60°



FIXTURE POWER	3W	
KEVIN_CCT	3000K	4000K
EQUIVALENCE	Halogen 50W	
FIXTURE FLUX_lm	200	210
EFFICACY_lm/W	>67	>70
LUX@.5m	>6,200_10°   >2,300_30°   >500_30°*60°	
CRI_Ra	>95	
CTA_R9	>90	
SDCM_MacAdam	<3	
BEAM IMAGE	Single Shadow	
BEAM ANGLE_°	10°   30°   30°*60°_Elliptical	

ORDERING	CODE
DS1C-3-60-DA-L	

## DRIVER COMPATIBILITY GUIDE



## DIMMING DRIVER WIRING SCHEMES ;

Note : Wiring diagrams are examples of typical installations intended to illustrate the number of wires that must be run to fixture. These diagrams are not intended to specify all equipment necessary for a given dimming circuit. Refer to specific dimmer manufacture's documentation for details.

Electronic 180~295Vac	D
DALI dimmable electronic 200~240Vac	DA
Electronic 0-10V Dimming 180~295Vac	DD



PTG's successful aSKa and aSKa Pro Range of architectural grade luminaires has now been expanded to encompass a wide selection of LED ceiling light modules embracing the latest technology available in the market place.

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LED technology is seriously challenging conventional light sources not only in lumen output and colour rendition but also in size and affordability finally allowing the lighting professional to design with green credentials.



MULTIDISCIPLINARY APPROACH



LOW TOTAL OPERATING COSTS



STRONG PARTNERSHIP



LIGHT QUALITY



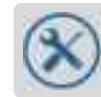
LED LIGHTING EXPERIENCE



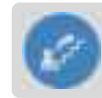
ENVIRONMENT



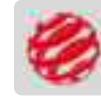
PROPRIETARY TECHNOLOGY AND INTELLECTUAL PROPERTY



EASE OF INSTALLATION



BEST OF BREED PRODUCTS



INNOVATIVE DESIGN



CTA\_R9 NANO TECHNOLOGY



NANO MATERIALS SCIENCE AND ANALYSIS



MICROINFORMATION SYSTEMS



ENERGY EFFICIENCY



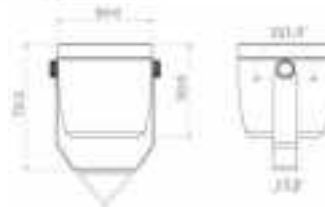
## VEX-corner

The VEX-YOKE SPOT is an LED luminaire suitable for indoor applications for architectural lighting and general lighting purposes with multistage LED driver and fitted snoot to reduce glare.

The luminaire is fitted with a single NANO MICRO PATTERN LENS.

Lumen outputs vary between 600 and 700 lumens depending on drive currents.

It is ideal for applications such as architectural lighting, landscape, detail and spot lighting. Manufactured from die cast aluminum the luminaire offers unrivalled light output in a small form factor.



Beam Angle : 10°



FIXTURE POWER	12W	
KEVIN_CCT	3000K	3500K
SIZE_mm	Ø59mm * H59mm	
FIXTURE FLUX_lm	600	600
BRACKET	CORNER BRACKET	
EFFICACY_lm/W	>50	>50
LUX@1m=22W CDM	>7,000_10°	
CRI_Ra	>90	
CTA_R9	>80	
SDCM_MacAdam	<3	
BEAM IMAGE	Single Shadow	
BEAM ANGLE_°	10°	

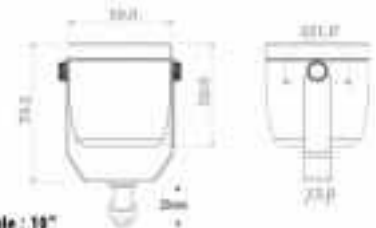
## VEX-pin

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Beam Angle : 11°



FIXTURE POWER	12W	
KEVIN_CCT	3000K	3500K
SIZE_mm	Ø59mm * H59mm	
FIXTURE FLUX_lm	600	600
BRACKET	Mounted Pin BRACKET	
EFFICACY_lm/W	>50	>50
LUX@1m=22W CDM	>7,000_10°	
CRI_Ra	>90	
CTA_R9	>80	
SDCM_MacAdam	<3	
BEAM IMAGE	Single Shadow	
BEAM ANGLE_°	10°	





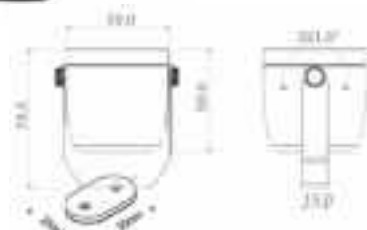
## VEX-flat

The VEX-YOKE SPOT is an LED luminaire suitable for indoor applications for architectural lighting and general lighting purposes with multistage LED driver and fitted snoot to reduce glare.

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Beam Angle : 10°



FIXTURE POWER	12W	
KEVIN_CCT	3000K	3500K
SIZE_mm	Ø59mm * H59mm	
FIXTURE FLUX_lm	600	600
BRACKET	Flat BRACKET	
EFFICACY_lm/W	>50	>50
LUX@1m=22W CDM	>7,000_10°	
CRI_Ra	>90	
CTA_R9	>80	
SDCM_MacAdam	<3	
BEAM IMAGE	Single Shadow	
BEAM ANGLE_°	10°	

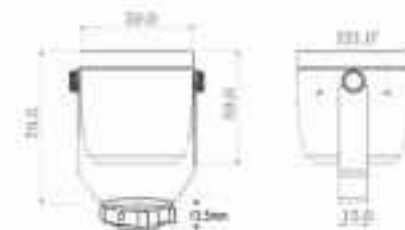
## VEX-puck

The VEX-YOKE SPOT is an LED luminaire suitable for indoor applications for architectural lighting and general lighting purposes with multistage LED driver and fitted snoot to reduce glare.

The luminaire is fitted with a single NANO MICRO PATTERN LENS.

Lumen outputs vary between 600 and 700 lumens depending on drive currents.

It is ideal for applications such as architectural lighting, landscape, detail and spot lighting. Manufactured from die cast aluminum the luminaire offers unrivalled light output in a small form factor.



Beam Angle : 10°



FIXTURE POWER	12W	
KEVIN_CCT	3000K	3500K
SIZE_mm	Ø59mm * H59mm	
FIXTURE FLUX_lm	600	600
BRACKET	Cabinet Puck BRACKET	
EFFICACY_lm/W	>50	>50
LUX@1m=22W CDM	>7,000_10°	
CRI_Ra	>90	
CTA_R9	>80	
SDCM_MacAdam	<3	
BEAM IMAGE	Single Shadow	
BEAM ANGLE_°	10°	



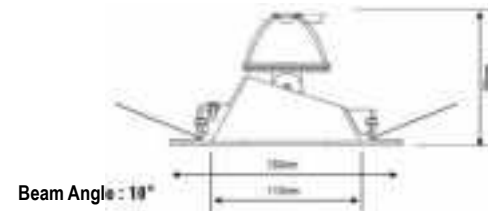
## VEX-PINHOLE

The VEX-YOKE SPOT DOWNLIGHT is an LED luminaire suitable for indoor applications for architectural lighting and general lighting purposes with multistage LED driver and fitted snoot to reduce glare.

The luminaire is fitted with a single NANO MICRO PATTERN LENS.

Lumen outputs vary between 600 and 700 lumens depending on drive currents.

It is ideal for applications such as architectural lighting, landscape, detail and spot lighting. Manufactured from die cast aluminum the luminaire offers unrivalled light output in a small form factor.



Beam Angle : 10°



FIXTURE POWER	12W	
KEVIN_CCT	3000K	3500K
SIZE_mm	Ø90mm(trim) * H100mm	
FIXTURE FLUX_lm	600	600
BRACKET	360° - 45°	
EFFICACY_lm/W	>50	>50
LUX@1m=22W CDM	>7,000_10°	
CRI_Ra	>90	
CTA_R9	>80	
SDCM_MacAdam	<3	
BEAM IMAGE	Single Shadow	
BEAM ANGLE_°	10°	

## VEX-MULTI SPOT

The VEX-YOKE MULTIPURPOSE SPOT is an LED luminaire suitable for indoor applications for architectural lighting and general lighting purposes with multistage LED driver and fitted snoot to reduce glare.

The luminaire is fitted with a single NANO MICRO PATTERN LENS.

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Beam Angle : 10°



FIXTURE POWER	12W	
KEVIN_CCT	3000K	3500K
SIZE_mm	Ø59mm * H59mm	
FIXTURE FLUX_lm	600	600
BRACKET	Trim	
EFFICACY_lm/W	>50	>50
LUX@1m=22W CDM	>7,000_10°	
CRI_Ra	>90	
CTA_R9	>80	
SDCM_MacAdam	<3	
BEAM IMAGE	Single Shadow	
BEAM ANGLE_°	10°	



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LED technology is seriously challenging conventional light sources not only in lumen output and colour rendition but also in size and affordability finally allowing the lighting professional to design with green credentials.



MULTIDISCIPLINARY APPROACH



LOW TOTAL OPERATING COSTS



STRONG PARTNERSHIP



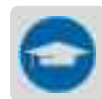
LIGHT QUALITY



LED LIGHTING EXPERIENCE



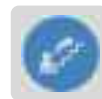
ENVIRONMENT



PROPRIETARY TECHNOLOGY AND INTELLECTUAL PROPERTY



EASE OF INSTALLATION



BEST OF BREED PRODUCTS



INNOVATIVE DESIGN



CTA\_R9 NANO TECHNOLOGY



NANO MATERIALS SCIENCE AND ANALYSIS



MICROINFORMATION SYSTEMS



ENERGY EFFICIENCY

# aSKa® | ADJUSTABLE GRAZER SPOT



## KAJU-12W

Grazer Linear revolutionises the concept of the linear spot light. The product with elliptical optic, providing high visual comfort, uses the physical principle of point lamps, generating elliptical light emission.

No more rigid frameworks, but instead ample opportunities for customization. INNOVATIVE PROGRAM in its simplicity, Grazer Linear is the result of an integrated process involving various disciplines: the science of lighting, technology, design and culture.

The system is a multiple, flexible, universal tool.

Grazer Linear has received prestigious international awards.



FIXTURE POWER	12W	
KEVIN_CCT	3000K	4000K
L_SIZE_mm	L300mm*W37mm*H35mm	
FIXTURE FLUX_lm	600	650
TILT BRACKET	±90°	
EFFICACY_lm/W	>50	>54
LUX@1m	>4,200_10°*60°	
CRI_Ra	>95	
CTA_R9	>90	
SDCM_MacAdam	<3	
BEAM IMAGE	Single Shadow	
BEAM ANGLE_°	10°*60°_Elliptical	

Beam Angle : 10°\* 60°

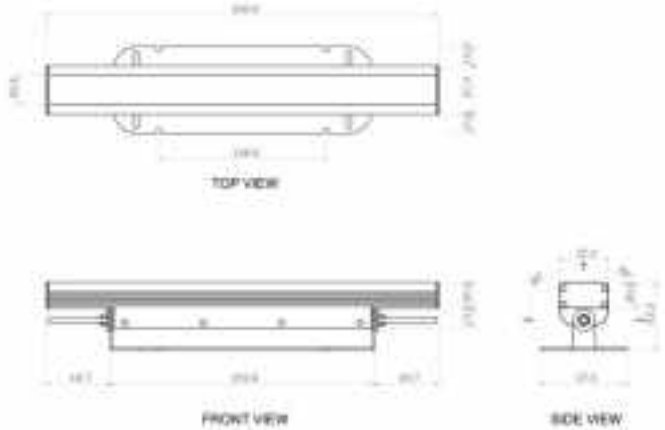


INNOVATION PROGRAM

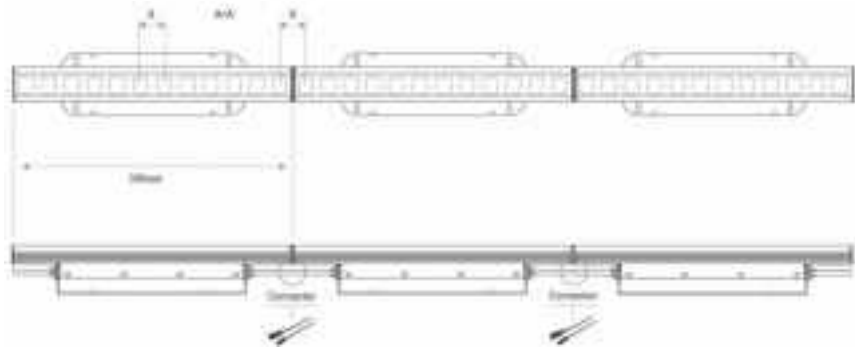
NANO TECHNOLOGY

HYBRID LED

MULTI STAGE



### CONNECTION

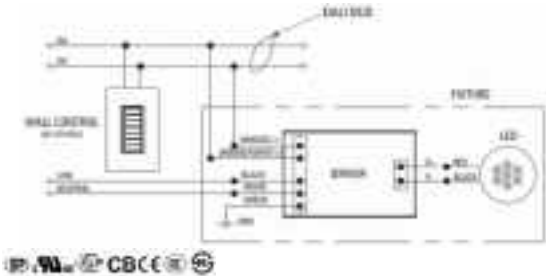


### ORDERING

KJ1C-12-1060-DA-L

### CODE

### DRIVER COMPATIBILITY GUIDE



#### DIMMING DRIVER WIRING SCHEMES ;

Note : Wiring diagrams are examples of typical installations intended to illustrate the number of wires that must be run to fixture. These diagrams are not intended to specify all equipment necessary for a given dimming circuit. Refer to specific dimmer manufacture's documentation for details.

Electronic 180~295Vac	D
DALI dimmable electronic 200~240Vac	DA
Electronic 0-10V Dimming 180~295Vac	DD





PTG's successful aSka and aSka Pro Range of architectural grade luminaires has now been expanded to encompass a wide selection of LED ceiling light modules embracing the latest technology available in the market place.

With PTG's new "MULTI-STAGE RIGID STRIP LED MODULE" Warm Dim modules added to the already extensive programme of LED modules from MICRO CYLINDER Engine.

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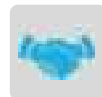
LED technology is seriously challenging conventional light sources not only in lumen output and colour rendition but also in size and affordability finally allowing the lighting professional to design with green credentials.



MULTIDISCIPLINARY APPROACH



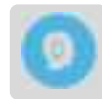
LOW TOTAL OPERATING COSTS



STRONG PARTNERSHIP



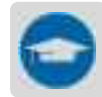
LIGHT QUALITY



LED LIGHTING EXPERIENCE



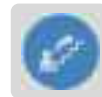
ENVIRONMENT



PROPRIETARY TECHNOLOGY AND INTELLECTUAL PROPERTY



EASE OF INSTALLATION



BEST OF BREED PRODUCTS



INNOVATIVE DESIGN



CTA\_R9 NANO TECHNOLOGY



NANO MATERIALS SCIENCE AND ANALYSIS



MICROINFORMATION SYSTEMS



ENERGY EFFICIENCY



ROTO\_2.3W

Multi-Stage RIGID Stripled revolutionises the concept of the store shop display. The product with metal PCB, providing high visual comfort, uses the physical principle of pinpoint lamps, generating linear light emission.

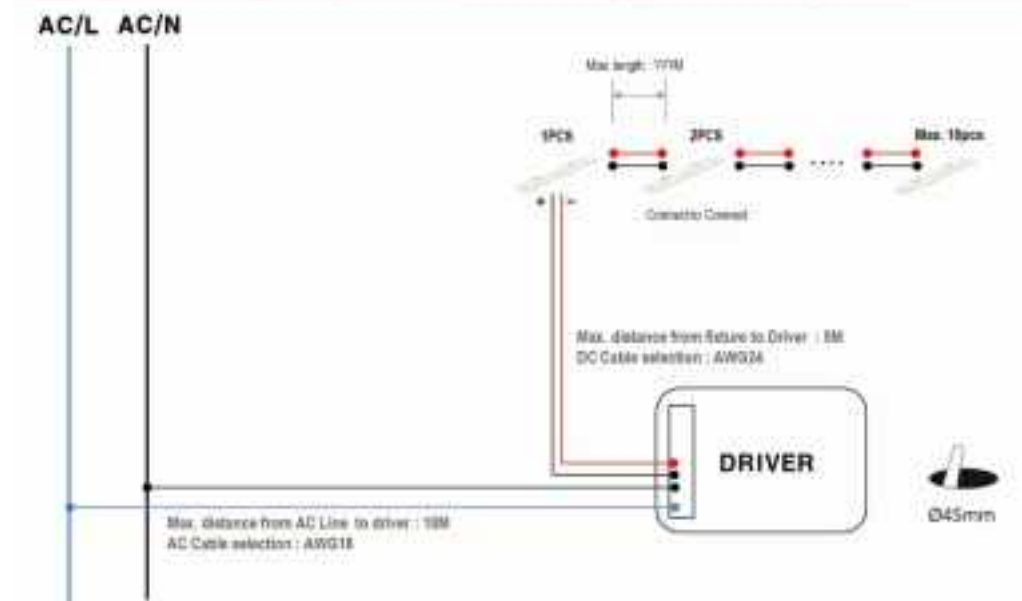
INNOVATIVE PROGRAM in its simplicity, Multi-Stage RIGID Stripled is the result of an integrated process involving various disciplines: the science of lighting, technology, design and culture.

The system is a multiple, flexible, universal tool.



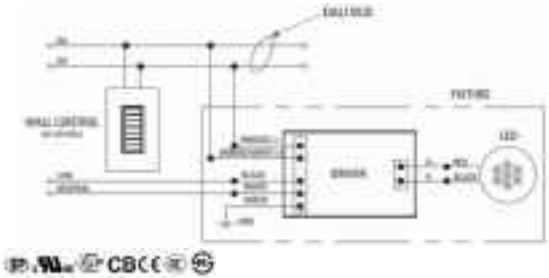
FIXTURE POWER	2.3W	
MODEL No.	RSE1C	RSE1E
KEVIN_CCT	3000K	4000K
SIZE_mm	L200mm * W20mm * H2mm	
FIXTURE FLUX_lm	227	230
EFFICACY_lm/W	>98	>100
CRI_Ra	>90	
CTA_R9	>80	
SDCM_MacAdam	<3	
BEAM IMAGE	Single Shadow	
BEAM ANGLE_°	120°	

INNOVATION PROGRAM   NANO TECHNOLOGY   HYBRID LED   MULTI STAGE



ORDERING	CODE
RO1C-2-DA	

DRIVER COMPATIBILITY GUIDE



DIMMING DRIVER WIRING SCHEMES ;	
Note : Wiring diagrams are examples of typical installations intended to illustrate the number of wires that must be run to fixture. These diagrams are not intended to specify all equipment necessary for a given dimming circuit. Refer to specific dimmer manufacture's documentation for details.	
Electronic 180~295Vac	D
DALI dimmable electronic 200~240Vac	DA
Electronic 0-10V Dimming 180~295Vac	DD



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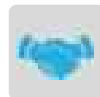
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MULTIDISCIPLINARY APPROACH



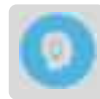
LOW TOTAL OPERATING COSTS



STRONG PARTNERSHIP



LIGHT QUALITY



LED LIGHTING EXPERIENCE



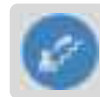
ENVIRONMENT



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CTA\_R9 NANO TECHNOLOGY



NANO MATERIALS SCIENCE AND  
ANALYSIS



MICROINFORMATION SYSTEMS



ENERGY EFFICIENCY



## MONO\_6.6W/m

SLIMFLEX ROLL is a very thin and flexible LED circuit strip.

It can be cut every 50mm and put back together using simple soldering techniques and silicone seal kit.

It comes available in CTA White Color versions. High CRI(>90), R9(>80), low heat and easy installation make this product the ideal product for a variety of applications.



FIXTURE POWER	6.6W/m	
KEVIN_CCT	3000K	4000K
SIZE_mm	L1000mm*W10mm*H1.6mm	
FIXTURE FLUX_lm	627	635
EFFICACY_lm/W	>95	>96
OPERATING TEMP.	-20°C to 50°C	
CRI_Ra	>90	
CTA_R9	>80	
SDCM_MacAdam	<3	
BEAM IMAGE	Multi Shadow	
BEAM ANGLE_°	120°	

## TANO

SLIMFLEX ROLL is a very thin and flexible LED MATRIX circuit strip.

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It comes available in CTA White Color versions. High CRI(>90), R9(>80), low heat and easy installation make this product the ideal product for a variety of applications.



FIXTURE POWER	5.6W			
KEVIN_CCT	3000K	3500K	4000K	5000K
SIZE_mm	300*300mm_Cutttable 50mm			
FIXTURE FLUX_lm	4520	530	530	560
Trim	With trim			
EFFICACY_lm/W	>93	>95	>95	>100
CRI_Ra	>95			
CTA_R9	>90			
SDCM_MacAdam	<3			
BEAM IMAGE	Multi Shadow			
BEAM ANGLE_°	120°			





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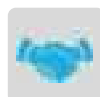
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MULTIDISCIPLINARY APPROACH



LOW TOTAL OPERATING COSTS



STRONG PARTNERSHIP



LIGHT QUALITY



LED LIGHTING EXPERIENCE



ENVIRONMENT



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NANO MATERIALS SCIENCE AND ANALYSIS



MICROINFORMATION SYSTEMS



ENERGY EFFICIENCY



## LUNA

LUNA Linear revolutionises the concept of the linear pitchless.

The product with PC and PMMA, Hologram optic, providing high visual comfort, uses the physical principle of pinpoint lamps, generating linear light emission.

INNOVATIVE PROGRAM in its simplicity, LUNA Linear is the result of an integrated process involving various disciplines: the science of lighting, technology, design and culture.

The system is a multiple, flexible, universal tool.

LUNA Linear has received prestigious international awards.



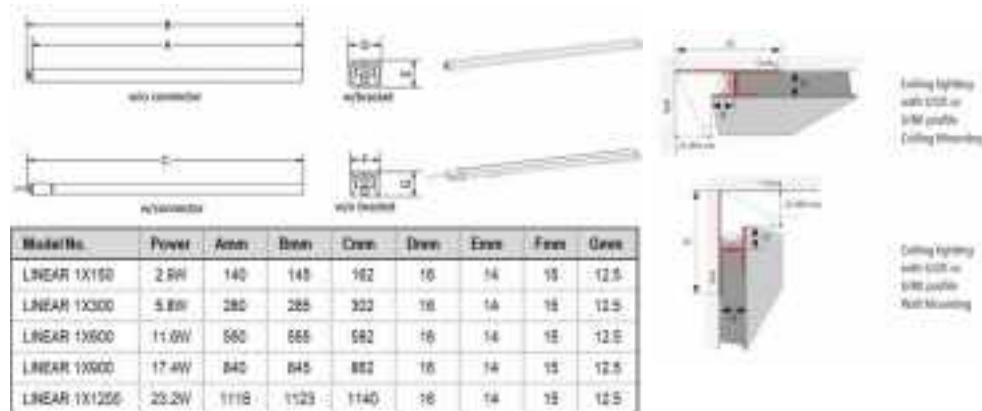
2.9W   145mm	5.8W   285mm	11.6W   565mm	17.4W   845mm	23.2W   1123mm
--------------------	--------------------	---------------------	---------------------	----------------------



FIXTURE POWER	11.6W_600mm	
MODEL No.	LN1C	LN1E
KEVIN_CCT	3000K	4000K
SIZE_mm	L565mm*W15mm*H12.5mm	
FIXTURE FLUX_lm	1050	1100
ACCESSORY	W/Bracket	
EFFICACY_lm/W	>45	>48
LUX@1m=22W CDM	>3,300_110	
CRI_Ra	>95	
CTA_R9	>90	
SDCM_MacAdam	<3	
BEAM IMAGE	Single Shadow	
BEAM ANGLE_°	110°	

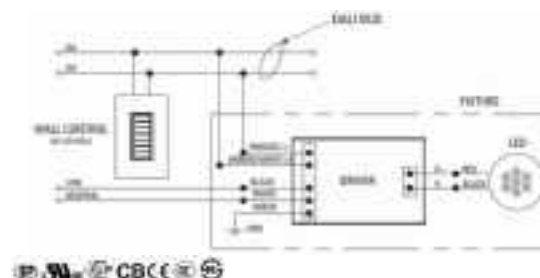


## INNOVATION PROGRAM | NANO TECHNOLOGY | HYBRID LED | MULTI STAGE



OPTICAL ACCESSORY		CODE
	Power Cable Connector between Power driver and Linear	L
	Power Driver_Constant Voltage 70W with junction Hub Box	U
	Mounting Clip_40°-15° I	M4515 I M
	Dimmer Switch	DS
	Dual Coupler	DC
ORDERING		CODE
LN1C-11.6-U(7)-L(3)-M(10)-DS(1)-DC(8)		I ( ) : Quantity

## DRIVER COMPATIBILITY GUIDE



### DIMMING DRIVER WIRING SCHEMES ;

Note : Wiring diagrams are examples of typical installations intended to illustrate the number of wires that must be run to fixture. These diagrams are not intended to specify all equipment necessary for a given dimming circuit. Refer to specific dimmer manufacture's documentation for details.

Electronic 180~295Vac	D
DALI dimmable electronic 200~240Vac	DA
Electronic 0-10V Dimming 180~295Vac	DD



## TINO

TINO-30 ultra slim Linear revolutionises the concept of the linear pitchless.

The product with 30° | 60° PMMA optic, providing high visual comfort, uses the physical principle of pinpoint lamps, generating linear light emission.

INNOVATIVE PROGRAM in its simplicity, TINO Linear is the result of an integrated process involving various disciplines: the science of lighting, technology, design and culture.

The system is a multiple, flexible, universal tool.



2.9W  
|  
145mm

5.8W  
|  
285mm

11.6W  
|  
565mm

17.4W  
|  
845mm

23.2W  
|  
1123mm



FIXTURE POWER	11.6W_600mm	
MODEL No.	LN1C	LN1E
KEVIN_CCT	3000K	4000K
SIZE_mm	L565mm*W15mm*H12.5mm	
FIXTURE FLUX_lm	1050	1100
ACCESSORY	W/Bracket	
EFFICACY_lm/W	>45	>48
LUX@1m=22W CDM	>3,300_110	
CRI_Ra	>95	
CTA_R9	>90	
SDCM_MacAdam	<3	
BEAM IMAGE	Single Shadow	
BEAM ANGLE_°	30°   60°   120°	

Beam Clearance\_30° | 60°

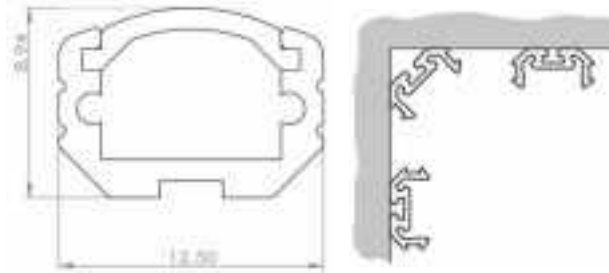


## INNOVATION PROGRAM

## ULTRA SLIM

## HYBRID LED

## SMART CONNECT



## OPTICAL ACCESSORY

## CODE

	Power Cable Connector between Power driver and Linear	L
	Power Driver_Constant Voltage 70W with junction Hub Box	U
	Mounting Clip_40°-15°   0°	M4015   M0
	Magnetic Clip-Bracket_40°-15°   0°	MA4015   MA0
	Dual Coupler	DC
	Adjustable Bracket_±90°	AB90
	Adjustable Magnetic Bracket_±90°	AMB90
	Bridge-mounting Clip between bar to bar_40°-15°   0°	BMC4015   BMC0

## ORDERING

## CODE

TN1C-11.6-010DA(4)-L(7)-U(3)-M0(4)-MA0(5)-DC(4) I ( ) : Q`ty

## DRIVER COMPATIBILITY GUIDE



## DIMMING DRIVER WIRING SCHEMES ;

Note : Wiring diagrams are examples of typical installations intended to illustrate the number of wires that must be run to fixture. These diagrams are not intended to specify all equipment necessary for a given dimming circuit. Refer to specific dimmer manufacture's documentation for details.

Electronic 180~295Vac	D
DALI dimmable electronic 200~240Vac	DA
Electronic 0-10V Dimming 180~295Vac	DD





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With PTG's new "LUMI LINEAR" Warm Dim modules added to the already extensive programme of LED modules from MICRO CYLINDER Engine.

plus our own micro cylinder engine 12 and 22 modules we feel that we have the low energy solution to many applications, be it hospitality, luxury retail maison, commercial or residential.

LED technology is seriously challenging conventional light sources not only in lumen output and colour rendition but also in size and affordability finally allowing the lighting professional to design with green credentials.



MULTIDISCIPLINARY APPROACH



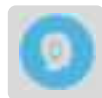
LOW TOTAL OPERATING COSTS



STRONG PARTNERSHIP



LIGHT QUALITY



LED LIGHTING EXPERIENCE



ENVIRONMENT



PROPRIETARY TECHNOLOGY AND INTELLECTUAL PROPERTY



EASE OF INSTALLATION



BEST OF BREED PRODUCTS



INNOVATIVE DESIGN



CTA\_R9 NANO TECHNOLOGY



NANO MATERIALS SCIENCE AND ANALYSIS



MICROINFORMATION SYSTEMS



ENERGY EFFICIENCY



# aSKa® | LED GLASS FILAMENT MOOD BULB



VINO-4W | 6W | 8W

The standard model is a 4 Filament 4W version that is a little brighter than the standard 3W and 6W filament LEDs (available in both E27 screw). For those who prefer a more subtle lighting solution, there is also a 4W version that is otherwise identical.

VINO Flip Special LED filament bulbs are the warmest on the market (a low 3000K on the colour temperature scale) and the long filament will give you a very similar look to venerable and popular carbon filament globes - just without the power consumption and consequent cost.

Furthermore, VINO LED bulbs operate at a really low temperatures - making them a lot safer especially for those of us with children. The old incandescent bulbs operated at temperatures up to 2800C, which is about as hot as a red dwarf star



FIXTURE POWER	4W	
MODEL No.	VINO-1C	VINO-1E
KEVIN_CCT	3000K	4500K
SIZE_mm	Ø60mm*H100mm	
FIXTURE FLUX_lm	380	440
SOCKET	E27_A60	
EFFICACY_lm/W	>95	>110
CRI_Ra	>85	
BEAM IMAGE	Single Shadow	
BEAM ANGLE_°	360°	

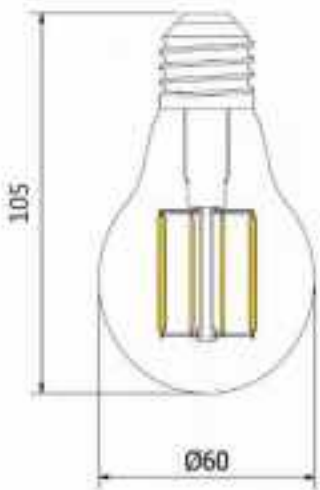
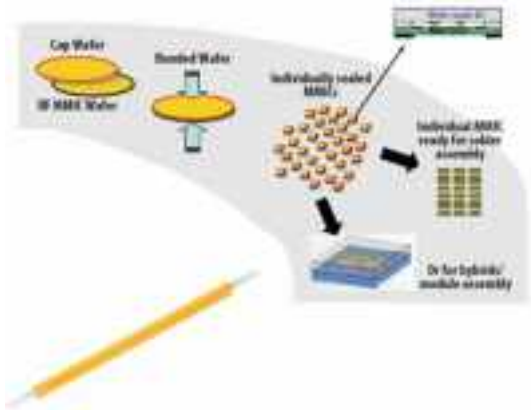


INNOVATION PROGRAM

FLIP FILAMENT LED

VINTAGE

FLIP FILAMENT LED



ACCESSORY	CODE
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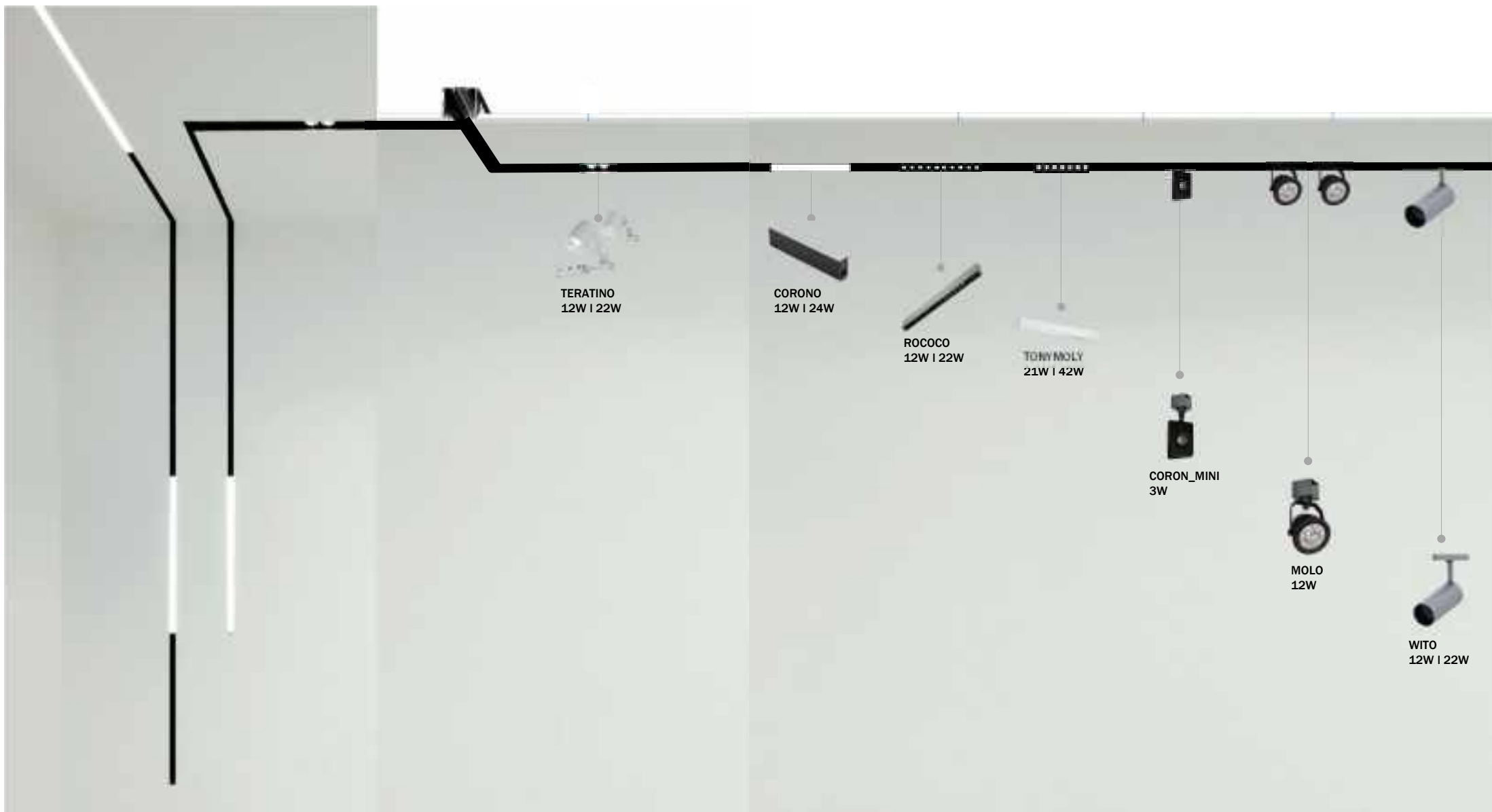
Half Chrome Coating	HC
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Crystal Silicon Coating	CS
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Dimming Control	DC
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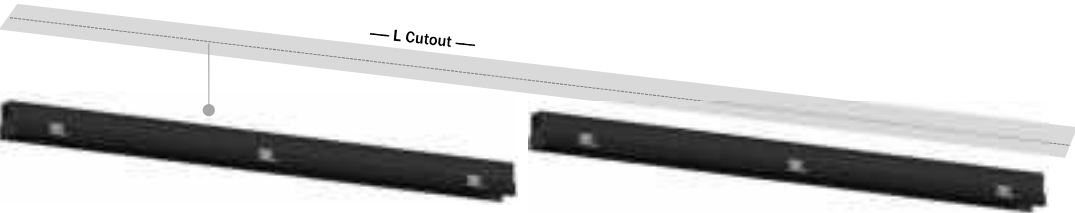
ORDERING	CODE
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VN-1C-4-HC-CS-DC	
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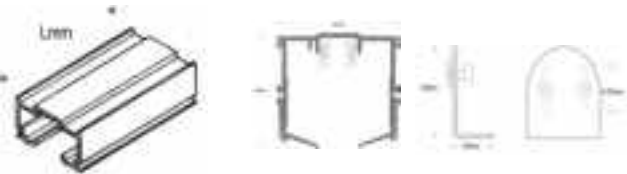


INSTALLATION MODULAR TRACK



LENGTH_L	WIDTH_W	HEIGHT_H	▲
500mm	85mm	80mm	MTR500
1000mm	4000K	80mm	MTR1000
1500mm	3000K	80mm	MTR1500
2000mm	4000K	80mm	MTR2000
Custom cut			

FIXTURE	Modular Track Rail
MATERIAL	Aluminum
FINISHED	BLACK_MATTE
CUTTABLE	W85mm*Lmm
FIXTURE MOUNT	By magnetic
ADJUSTABLE BRACKET	Min 0 – Max. 30MM



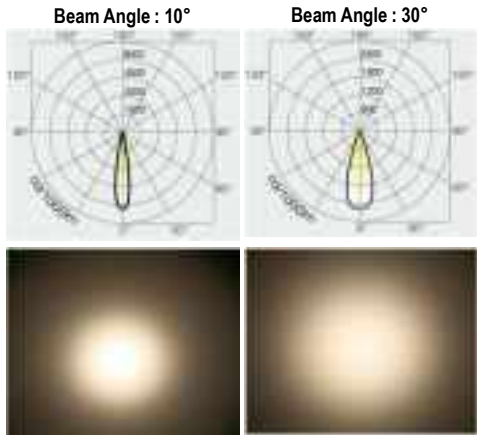
TERATINO

**TERATINO\_MAGHETIC MOUNT FOR MAXIMUM FLEXIBILITY**  
system revolutionises the lighting track new concept; making anything possible. TERATINO combines minimalist design and maximum flexibility. The On/Off magnetic mount allows fast and quick changes of all the insets; without any tools! A winning tracked lighting system.

**MAGNETIC MOUNT FOR MAXIMUM FLEXIBILITY** attachment of the various insets in the profiles is achieved through integrated Smart magnets. Long and complicated disassembly work for remodeling and regroup-ing of spots, wall washers , suspended luminaires and other insets are now just history. The insets can be quickly and easily re-inserted by anyone. This saves time and money and is a big step towards independence in technical lighting for every display gallery or for those who need to change their room or object illumination regularly.



FIXTURE POWER	12W		22W	
KEVIN_CCT	3000K	4000K	3000K	4000K
EQUIVALENCE	CDM 22W		CDM 39W	
FIXTURE FLUX_lm	530	580	900	1000
MAGNETIC MOUNT	NA			
EFFICACY_lm/W	>42	>45	>42	>45
LUX@1m=22W CDM	>12,000_10°   >1,300_30°		>22,000_10°   >3,000_30°	
CRI_Ra	>95			
CTA_R9	>90			
SDCM_MacAdam	<3			
BEAM IMAGE	Single Shadow			
BEAM ANGLE_°	10°   30°			





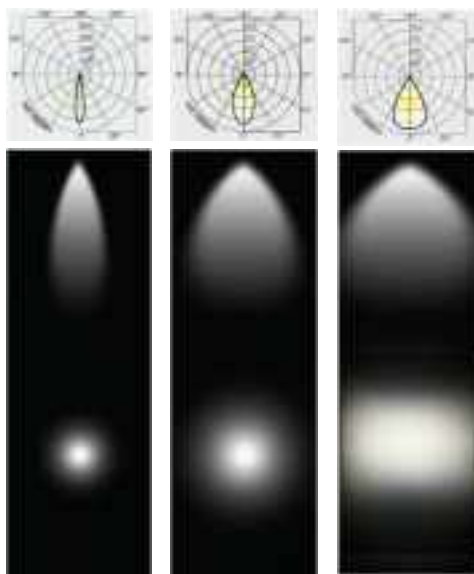
## ROCOCO\_EYEBALL SPOT

**ROCOCO\_MAGHETIC MOUNT FOR MAXIMUM FLEXIBILITY** system revolutionises the eyeball lighting track new concept; making anything possible. ROCOCO combines minimalist design and maximum flexibility. The On/Off magnetic mount allows fast and quick changes of all the insets; without any tools! A winning tracked lighting system.

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Beam Angle : 10° Beam Angle : 30° Beam Angle : 30 ° \*60°

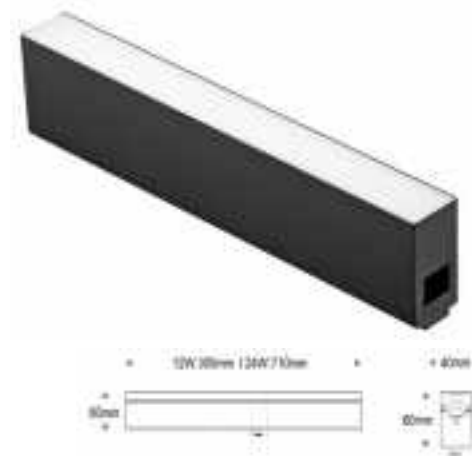


FIXTURE POWER	1.2W*8		1.2W*12	
KEVIN_CCT	3000K	4000K	3000K	4000K
EQUIVALENCE	CDM 22W		CDM 39W	
FIXTURE FLUX_lm	672	700	1008	1050
L SIZE_mm	500MM		700MM	
EFFICACY_lm/W	>70	>73	>70	>73
LUX@.5cm	>2,700_10°   >1,000_30°   >400_30°*60°			
CRI_Ra	>95			
CTA_R9	>90			
SDCM_MacAdam	<3			
BEAM IMAGE	Eyeball Multi Shadow			
BEAM ANGLE_°	10°   30°   30°*60°_Elliptical			

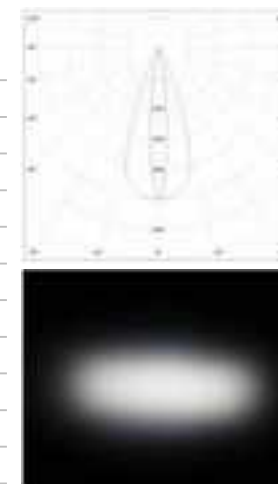
## CORONO\_ELLIPTICAL LINEAR BEAM

**CORONO\_MAGHETIC MOUNT FOR MAXIMUM FLEXIBILITY** system revolutionises the lighting track new concept; making anything possible. CORONO combines minimalist design and maximum flexibility. The On/Off magnetic mount allows fast and quick changes of all the insets; without any tools! A winning tracked lighting system.

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Beam Angle : 10\*\*60°



FIXTURE POWER	12W		12W*2	
KEVIN_CCT	3000K	4000K	3000K	4000K
L SIZE_mm	305mm		710mm	
FIXTURE FLUX_lm	530	580	1080	1150
MAGNETIC MOUNT	NA			
EFFICACY_lm/W	>45	>48	>45	>48
LUX@.5m	>3,800_10°*60°		>9120_10°*60°	
CRI_Ra	>95			
CTA_R9	>90			
SDCM_MacAdam	<3			
BEAM IMAGE	Single Shadow			
BEAM ANGLE_°	10°*60°_Elliptical			



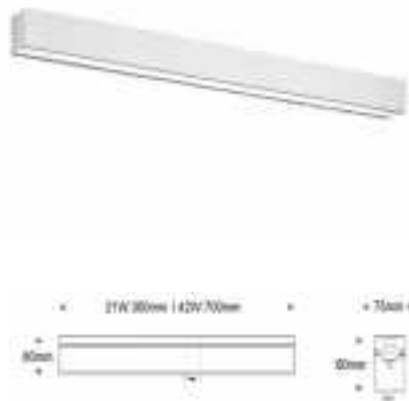


## TONYMOLY\_BLADE

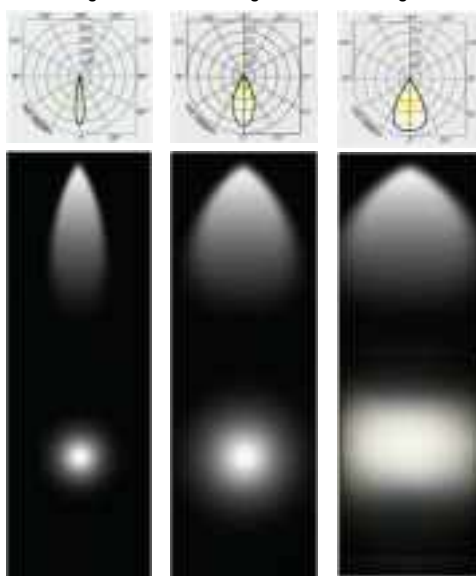
### TONYMOLY\_MAGHETIC MOUNT FOR MAXIMUM FLEXIBILITY

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Beam Angle : 10°    Beam Angle : 30°    Beam Angle : 30°\*60°



FIXTURE POWER	21W		21W*2	
KEVIN_CCT	3000K	4000K	3000K	4000K
L SIZE_mm	300mm		700mm	
FIXTURE FLUX_lm	530	580	1008	1050
EFFICACY_lm/W	>45	>48	>45	>73
LUX@.5cm	>2,700_10°   >1,000_30°   >400_30°*60°			
CRI_Ra	>95			
CTA_R9	>90			
SDCM_MacAdam	<3			
BEAM IMAGE	BLADE Multi Shadow			
BEAM ANGLE_°	10°   30°   30°*60°_Elliptical			

## CORON\_COMPACT MINI TRACK SPOT

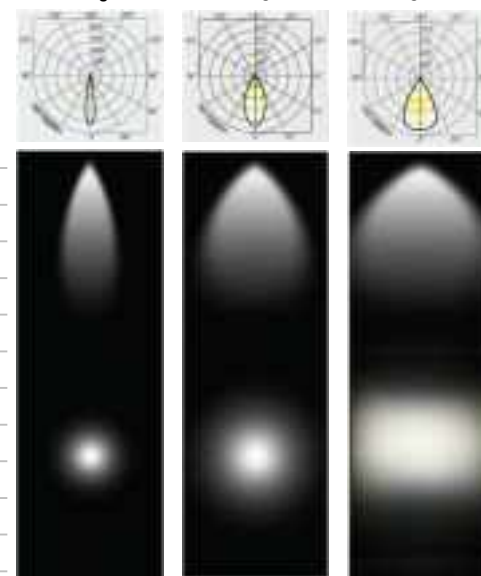
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Beam Angle : 10°    Beam Angle : 30°    Beam Angle : 30°\*60°



FIXTURE POWER	3W	
MODEL No.	CRN1C	CRN1D
KEVIN_CCT	3000K	3500K
EQUIVALENCE	Halogen 50W	
FIXTURE FLUX_lm	195	195
EFFICACY_lm/W	>65	>65
LUX@.5m=50W Hal	>4,500_10°   >2700_30°   >2,200_30°*60°	
CRI_Ra	>95	
CTA_R9	>90	
SDCM_MacAdam	<3	
BEAM IMAGE	Single Shadow	
BEAM ANGLE_°	10°   30°   30°*60°	



MOLO

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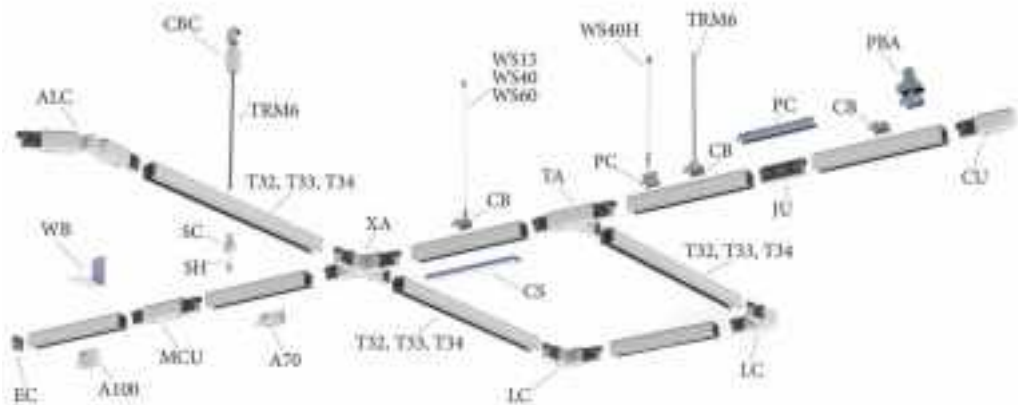
FIXTURE POWER	12W		21W*2	
	3000K	4000K	3000K	4000K
L SIZE_mm	300mm		700mm	
FIXTURE FLUX_lm	530	580	1008	1050
EFFICACY_lm/W	>45	>48	>45	>73
LUX@.5cm	>2,700_10°   >1,000_30°   >400_30°*60°			
CRI_Ra	>95			
CTA_R9	>90			
SDCM_MacAdam	<3			
BEAM IMAGE	BLADE Multi Shadow			
BEAM ANGLE_°	10°   30°   30°*60°_Elliptical			



Beam Angle : 10°



CONNECTION

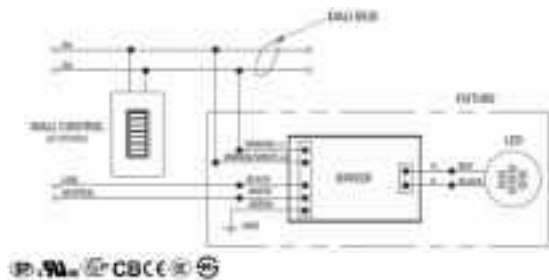


ORDERING

CODE

ST-A100

DRIVER COMPATIBILITY GUIDE



DIMMING DRIVER WIRING SCHEMES ;

Note : Wiring diagrams are examples of typical installations intended to illustrate the number of wires that must be run to fixture. These diagrams are not intended to specify all equipment necessary for a given dimming circuit. Refer to specific dimmer manufacture's documentation for details.

Electronic 180~295Vac	D
DALI dimmable electronic 200~240Vac	DA
Electronic 0-10V Dimming 180~295Vac	DD



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MULTIDISCIPLINARY APPROACH



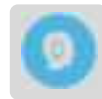
LOW TOTAL OPERATING COSTS



STRONG PARTNERSHIP



LIGHT QUALITY



LED LIGHTING EXPERIENCE



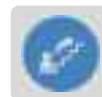
ENVIRONMENT



PROPRIETARY TECHNOLOGY AND INTELLECTUAL PROPERTY



EASE OF INSTALLATION



BEST OF BREED PRODUCTS



INNOVATIVE DESIGN



CTA\_R9 NANO TECHNOLOGY



NANO MATERIALS SCIENCE AND ANALYSIS



MICROINFORMATION SYSTEMS



ENERGY EFFICIENCY



## CABAL-120W | 150W

aSKa CABAL SMART Street Light Control (CSSLC): the innovative light management system for outdoor lighting. For demand-oriented control and monitoring of individual luminaires up to thousands of points of light. Street Light Control facilitates particularly a reduction in power consumption, CO2 emission and light pollution and moreover an optimized maintenance planning. Central element: the CSSLC software which the user can use to keep the entire street lighting system in view.

### Saves energy and reduces operational costs ;

Street Light Control reduces energy consumption and CO2 emission. Unnecessary over-lighting can be prevented by targeted dimming of sectors of the city, roads or individual luminaires. Thus, the CSSLC can be used to make effective and consistent energy savings - up to 50 % per year. Street Light Control also has an effect on the maintenance costs: It offers the facility of central detailed monitoring and analysis of the lighting installation and thus leads to simplification of maintenance planning.

### Increases security

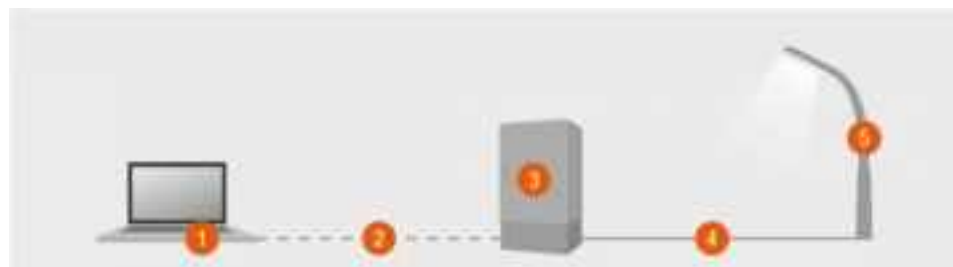
Whether it be roads, tracks or industrial lighting - you need to be able to rely on the lighting. Particularly important: Resistance to current spikes and the effects of weather and security of communications between the switchgear cabinet and the luminaire. In this area, our tried and tested aSKa Powerline technology provides the best possible functional security.

### Increases flexibility of the lighting

The world is continuously changing - and so is the image of the city. With Street Light Control, outdoor lighting can adapt to match these changes. Individual luminaires can be gathered together flexibly to form groups of luminaires according to streets and pedestrian crossings. CSSLC also permits the user to control and monitor the luminaires, individually or in groups – depending on the application.



## SMART IC DRIVER INTEGRATION TECHNOLOGY NANO TECHNOLOGY



### All very simple: the SLC system and its components

#### 1. SLC software

Central interface between user and the SLC system Administration, programming and analysis of the lighting system Local installation or in the Cloud Only allocated function areas visible for each user.

#### 2. Internet protocol (IP)

The communication between the software and gateways at street level is via a secure IP connection by GPRS, Ethernet or optical fiber

#### 3. SLC gateway

Installation in the switchgear cabinet Saves, processes and translates the control commands and queries initiated by the software Incorporation of additional components such as counters, relays or light sensors into the entire system

#### 4. Powerline

Responsible for data transmission between gateway and connected luminaires Additional communication infrastructure is not required

#### 5. SLC Luminaire Controller / SLC Pole Controller

- The controllers in the SLC system allow individual control and monitoring of each individual luminaire
- Components can be supplied as mast mounting or luminaire mounting
- Individual switching of all luminaires is possible
- Individual dimming (via 1 ... 10 V interface or DALI) of all luminaires is possible
- Use of each controller as a signal amplifier is possible for optimum communication





## Top facts about the CSSLC software

The CSSLC software is the central interface where all information comes together and is made accessible to the user. The entire system is represented clearly and can thus be controlled, administered and analyzed simply.

## Control

The user has a wealth of possibilities for controlling the CSSLC: They can define the switching calendar for lighting groups or individual lighting points and even stipulate exceptions during construction work or during holiday periods. It is also possible to control each luminaire in the system directly.

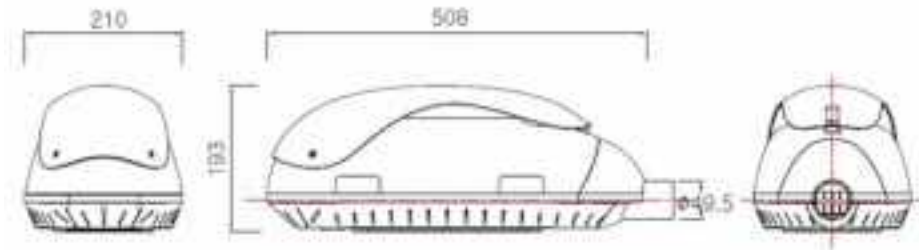
## Administration

Thanks to the software, the scalability of the system and the individual light points is really easy: This permits, for example, flexible grouping of the luminaires, the best possible prediction of the need for maintenance by evaluation of the illuminant lifespan and automatic signaling of failures.

## Analysis

The analysis function of the CSSLC software provides outstanding transparency and control. This automatically records all the system components and visualizes and evaluates them with a few clicks of the mouse. The individual analysis reports, e.g. the energy evaluations, are created and exported cyclically, and, if required, even sent by e-mail

## SMART IC DRIVER INTEGRATION TECHNOLOGY NANO TECHNOLOGY

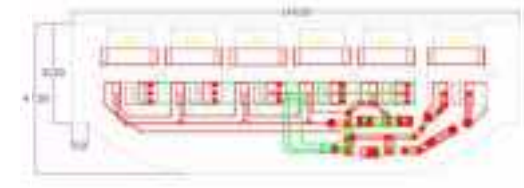


## Lighting Engine

## LED MODULE ARRAY\_DRIVERLESS by IC



## DISTRIBUTOR ARRAY\_BY DRIVERLESS





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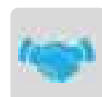
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MULTIDISCIPLINARY APPROACH



LOW TOTAL OPERATING COSTS



STRONG PARTNERSHIP



LIGHT QUALITY



LED LIGHTING EXPERIENCE



ENVIRONMENT



PROPRIETARY TECHNOLOGY AND INTELLECTUAL PROPERTY



EASE OF INSTALLATION



BEST OF BREED PRODUCTS



INNOVATIVE DESIGN



CTA\_R9 NANO TECHNOLOGY



NANO MATERIALS SCIENCE AND ANALYSIS



MICROINFORMATION SYSTEMS



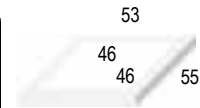
ENERGY EFFICIENCY



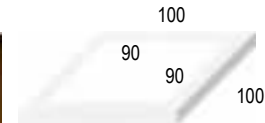
## SQUARE OLED



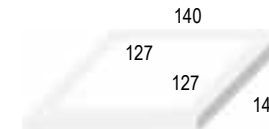
This cool new technology could be the future lighting solutions for our homes and offices, and having inspired by its unique properties.



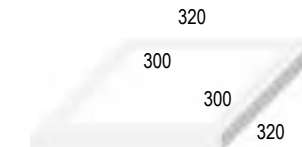
TYPE		Square Type	
Size	mm	53*55	
Model		N6SB40G	N6SB30G
Thickness	mm	1.97	1.97
CCT	K	4,000	3,000
Efficacy	lm/W	55	60
Flux	lm	20	20
Uniformity	%	>85	>85
CRI	Ra	90	90
Voltage	V	6.0	8.5
DC Current	mA	60	40
LT70	hrs	30,000	40,000



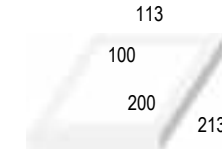
TYPE		Square Type	
Size	mm	100*100	
Model		N6SA40C	N6SA30C
Thickness	mm	0.88	0.88
CCT	K	4,000	3,000
Efficacy	lm/W	55	60
Flux	lm	75	75
Uniformity	%	>85	>85
CRI	Ra	90	90
Voltage	V	6.0	8.5
DC Current	mA	230	150
LT70	hrs	30,000	40,000



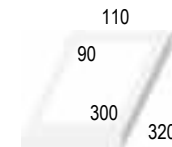
TYPE		Square Type	
Size	mm	140*140	
Model		N6SC40C	N6SC30C
Thickness	mm	0.88	0.88
CCT	K	4,000	3,000
Efficacy	lm/W	55	60
Flux	lm	150	150
Uniformity	%	>85	>85
CRI	Ra	90	90
Voltage	V	6.0	8.5
DC Current	mA	480	300
LT70	hrs	30,000	40,000



TYPE		Square Type	
Size	mm	320*320	
Model		N6SD40C	N6SD30C
Thickness	mm	0.88	0.88
CCT	K	4,000	3,000
Efficacy	lm/W	55	60
Flux	lm	800	800
Uniformity	%	>85	>85
CRI	Ra	90	90
Voltage	V	6.0	8.5
DC Current	mA	2,500	1,600
LT70	hrs	30,000	40,000



TYPE		Square Type	
Size	mm	213*113	
Model		N6BC40C	N6BC30C
Thickness	mm	0.88	0.88
CCT	K	4,000	3,000
Efficacy	lm/W	55	60
Flux	lm	185	185
Uniformity	%	>85	>85
CRI	Ra	90	90
Voltage	V	6.0	8.5
DC Current	mA	570	370
LT70	hrs	30,000	40,000



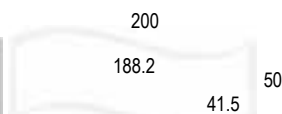
TYPE		Square Type	
Size	mm	320*320	
Model		N6BB40C	N6BB30C
Thickness	mm	0.88	0.88
CCT	K	4,000	3,000
Efficacy	lm/W	55	60
Flux	lm	250	250
Uniformity	%	>85	>85
CRI	Ra	90	90
Voltage	V	6.0	8.5
DC Current	mA	800	500
LT70	hrs	30,000	40,000



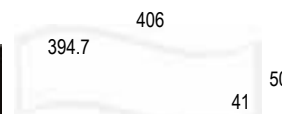
## FLEX OLED



This cool new technology could be the future lighting solutions for our homes and offices, and having inspired by its unique properties.

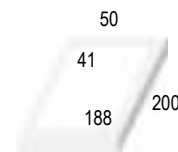


TYPE		Flexible Type	
Size	mm	200*50	
Model		P6BA40A	P6BA30A
Thickness	mm	0.41	0.41
CCT	K	4,000	3,000
Efficacy	lm/W	50	50
Flux	lm	75	75
Uniformity	%	>80	>80
CRI	Ra	85	85
Voltage	V	6.0	6.0
DC Current	mA	245	245
LT70	hrs	20,000	20,000

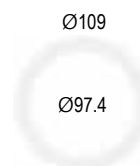


TYPE		Flexible Type	
Size	mm	406*50	
Model		N6SA40C	N6SA30C
Thickness	mm	0.41	0.41
CCT	K	4,000	3,000
Efficacy	lm/W	50	50
Flux	lm	150	150
Uniformity	%	>70	>70
CRI	Ra	85	85
Voltage	V	6.1	6.1
DC Current	mA	490	490
LT70	hrs	20,000	20,000

## A NEW EXPERIENCE OF LIGHT | HIGH PERFORMANCE | INNOVATIVE DESIGN



TYPE		Rectangular Type	
Size	mm	200*50	
Model		N6BA40C	N6BA30C
Thickness	mm	0.88	0.88
CCT	K	4,000	3,000
Efficacy	lm/W	55	60
Flux	lm	75	75
Uniformity	%	>85	>85
CRI	Ra	90	90
Voltage	V	6.0	8.5
DC Current	mA	230	150
LT70	hrs	30,000	40,000



TYPE		Circular Type	
Size	mm	Ø109	
Model		N6OC40C	N6OC30C
Thickness	mm	0.8	0.8
CCT	K	4,000	3,000
Efficacy	lm/W	50	50
Flux	lm	75	75
Uniformity	%	>85	>85
CRI	Ra	90	90
Voltage	V	6.0	6.0
DC Current	mA	230	230
LT70	hrs	30,000	30,000





## The PTG Group of Companies



We  
make  
**INNOVATIVE TECHNOLOGY**  
for global customers

PTG of a R&D company specialized on high-tech composite  
NANO materials that starts new challenge again!

Dear, Our customers giving us unsparing trust and support and honorable stakeholders

PTG established in July, 2004 motto of a company specialized on distinguished NANO functional part materials. Since we mass-produced NANO Graphene films by developing the innovative coating mixing technology, We have expanded our business to the LEDs application and Self-driving Car system technology.

Then, we have continued the remarkable growth every year.

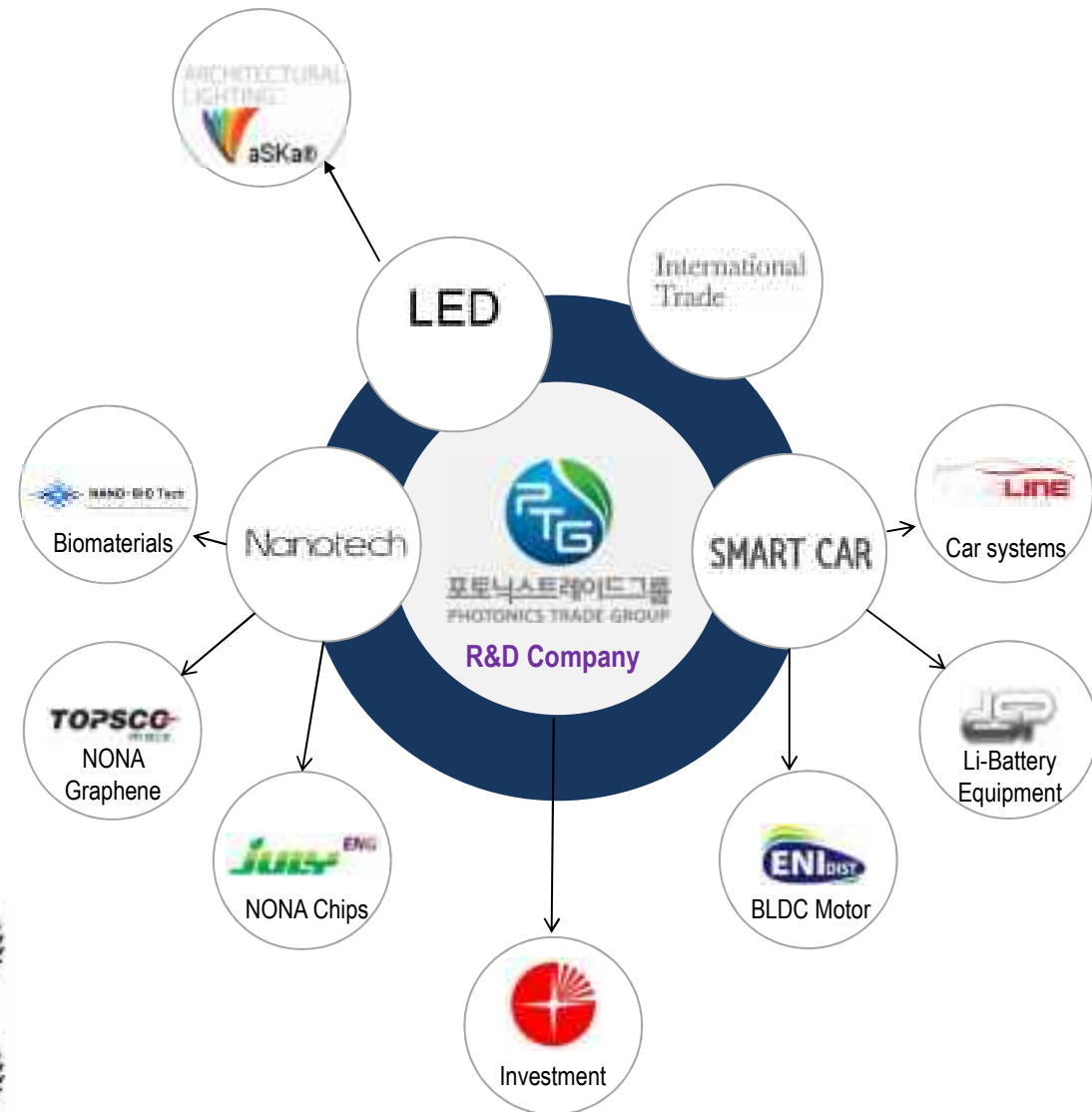
Also, we have entered to the Luxury LED Lighting field for establishing the stable business portfolio in 2013 and has held the outstanding competitiveness in the NANO patterning field of a light guide plate by developing the world's first double-side thermal transfer extrusion technology in 2010. And we are competing on the world market as well as domestic market.



CEO of PTG Group

*Anderson Kong*

So, We hope that our customers and stakeholders give us endless interest and support to push the good-will direction. Moreover, we promise you that pour our all effort to make our bright future.





Since 1996, Photonics Trade Group(As PTG) has been a symbol of excellence in high-end NANO materials and Smart Car system, Architectural Lighting in Korea and worldwide.

Over half of the Korean municipalities, and two hundreds of engineers are already familiar with the PTG brand hallmark,

## R&D Center 2020 in Korea

The three- R&D building, scheduled to open in December 2020, will employ about 700 engineers by the time.

Whose constant message has always been, and continues to be, Innovative technology and technical research & Development, in keeping with eco-friendliness and human sustainability.

aSKa Founded by Anderson Kong, engineering, and attentive observer and interpreter of the aesthetic and functional demands of the city, starting from its very heart, PTG's proposal is twofold : continuity of its classical style in the Heritage collection and the evolution of its design and function ideals in the contemporary collection.

Restoration activities, reproduction, customized luxury maison integration projects, as well as partnerships with architects, lighting designers and energy managers, are just some of the services offered by this aSKa company, which can be found in over 37 countries around the world, and that has been a symbol of intelligence and passion for 50 years.

PTG has built up its infrastructures globally to meet the customers' quickly evolving demands, including R&D centers, OEM production, trading companies and sales networks etc.

PTG's 78 agents around the world have forged strategic partnerships with first-class suppliers, research institutions, and prestigious universities to create an innovative eco-technology composed to internal and external scientists and engineers connected by virtual and physical networks



PHOTONICS TRADE GROUP\_Global Networks



# ABOUT US I

## NEW BRAND of Architectural Lighting



- SMT/D Production Line
- Molding Production Line
- Assembly Line

### Innovative Tech. Lighting Brand



For over 25 years, The PHOTONICS TRADE GROUP has been making quality products for the Architectural Lighting Industry.

From the beginning, the goal was always to be the best Architectural Lighting Company, an ideal that is kept in mind each and every day.

Today, the PTG Group continues to strive after it's original goal through vertical integration, diversity of product, and manufacturing in Korea.

With an ever growing product line of over 400 products and our unsurpassed custom capabilities,

aSKa\_Architectural Lighting can provide the expertise and craftsmanship needed to help you complete your architectural Lighting Project.

philosophy

aSKa believes in the value of people's dreams.

Therefore, our dream should begin with empathy for people's lives

aSKa strives to create a better future with our users.

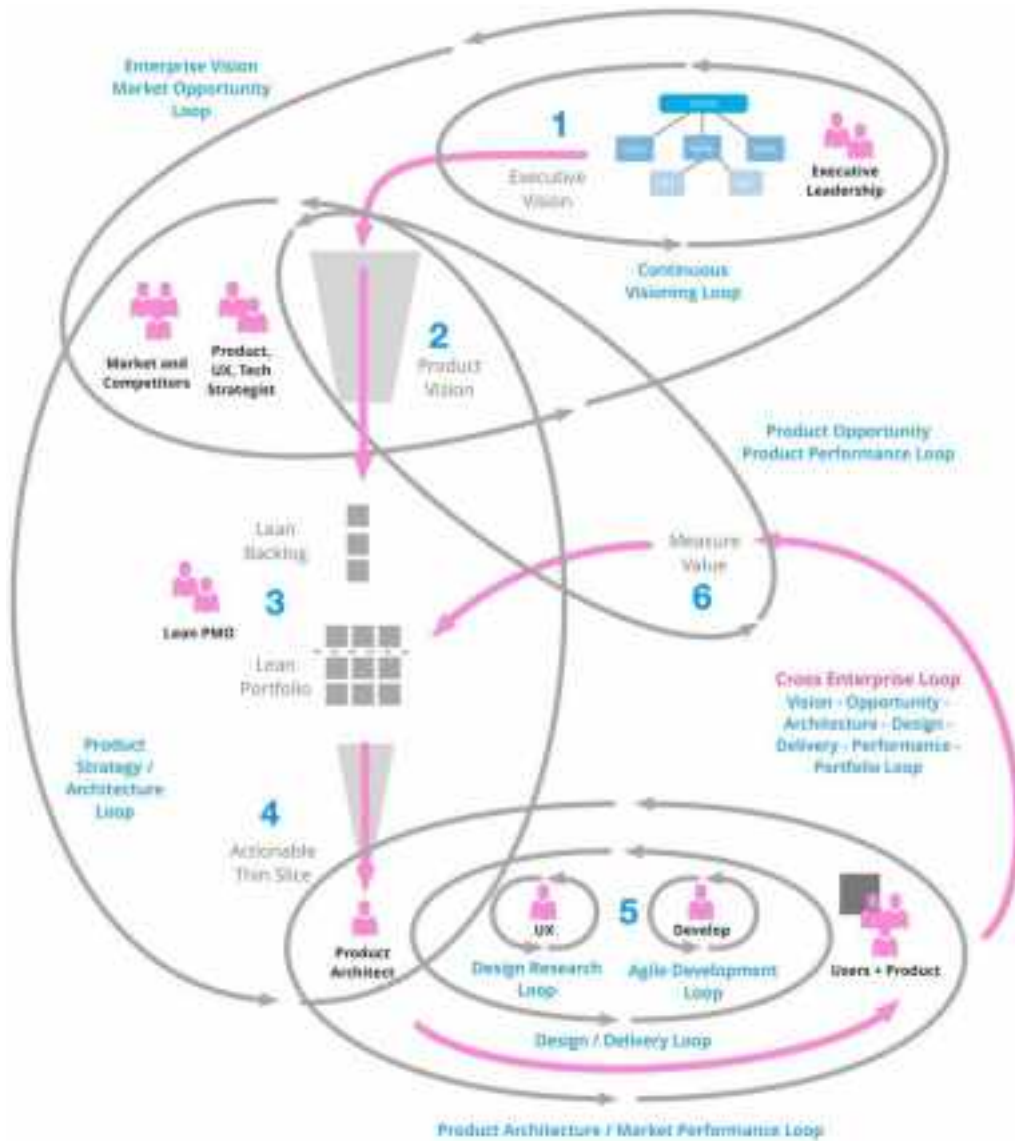
Together, we can contribute to society by creating sustainable values and bring joy and meaning to our lives.

This is the design to which aSKa aspires.



Meiric Chen, Chao-Cheng





Innovation is  
the only way  
to win.

Steve Jobs

Efficiency, thermal management, NANO material tech., glare, NANO Micro optics, selecting materials, lighting quality and connectivity.

For aSKa, Research and Development(R&D) means working with determination and consistency on these issues which are crucial for lighting, product development and the sustainability of products.

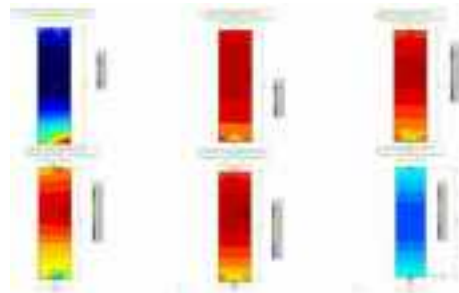
By scientifically investigating these issues it has been possible to design and implement, for example, the performance and comfort product categories : focuses of an ellipse within which LED technology can be experienced and innovated.

**By independently documenting all aspects of its designs, giving free rein to experimentation and studying with passion and curiosity everything that revolves around lighting, design and urban décor, aSKa has made an international name for itself for both the forms and the substance of its products**

In the LED field, for example, it has formalized the distinction between performance and comfort: a successful classification which has led to a better understanding and acceptance of light-emitting diode technology in general.

The performance aspect, includes products that are more suitable for indoor and mill-works, where the quality of a cold light and maximizing energy savings are priorities. On the comfort side, LED solutions highlight qualities such as the naturalness and harmony of emitted light.

In these solutions the aesthetics and the color of light – warmer and less glaring-better combine with the shapes and urbanity of historic centers and with green areas and luxury maison, where they suitably accompany emotions and relationships.



Stressful conditions are created for various elements and the product surface finishes using salt fog, UV-A and humidity cycles.

These accelerate the ageing process, and allow technicians to forecast the effects of various factors on the products over time.

The high-level technologies used in new products such as LED are also checked here.

**Innovative laboratories, a distinctive asset of the company, where a dedicated, passionate team of technicians and engineers virtually simulate and exacerbate the environments where the products will be placed, measuring their effects and conduct.**

This is done using tools that also play a key role in the design phase. These tools are highly sophisticated and even unique in certain respects: as is the case of one of the largest and fastest Gonio photometers in Europe, used for testing the performance of lighting products and their suitability with respect to the restrictive regional regulations on light pollution.

In our laboratories, studying and measuring light and matter is what we do daily. Their relationship with the environment and future technological developments are constantly associated with the requests coming from outside, and from the markets.

Safety tests, such as that performed to determine the degree of resistance to water, solid bodies or powder, and efficiency tests that measure the luminous flux and colorimetric characteristics of the different sources, are elements that provide indispensable added value for the company.



The full-scale reconstruction of a segment of a two-lane road surrounded by night.

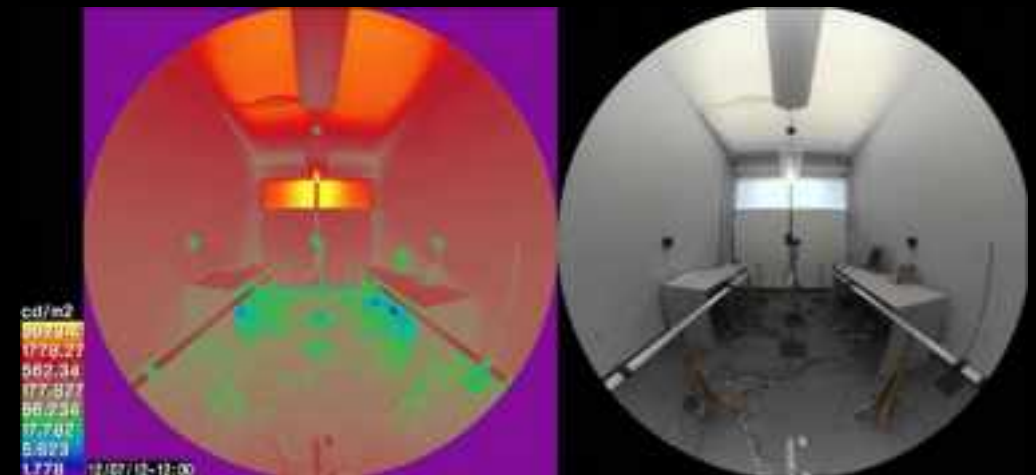
Light fixtures and sources can change, rotate and move closer to each other, thus allowing us to test and measure the degree of excellence and effectiveness of the products. A "test driver" available to all those wishing to preview the exciting effect of a aSKa product.

From laboratory tests on the individual components, to the effects that the assemblies, installed products have on the luxury maison, or the mill-works spot lights. This is aSKa's most impressive and technologically advanced test setting,

This is the workplace of lighting designers, engineers, designers, architects, who can measure the potential of every new idea, determining the degree of comfort that might be felt by a motorist or a pedestrian walking alone a hypothetical waterfront.

All this is done through a realistic and immersive simulated experience created by a simulator specifically built to meet the company's innovation and experimentation requirements.

It is a valuable component for all of the projects, indeed universities(Chosun Univ.) and technical institutes(KOPTI, KATI) often ask to use it in order to perform very specific tests and simulations, that it would otherwise be impossible to conduct anywhere else in Korea





Architectural Lighting Design is involved in providing specialty lighting design services for the institutional, retail, commercial, industrial and residential markets.

Our strengths in innovative and cost effective engineering solutions through design, project management and supervision for installation of energy efficient products and systems. aSKa is committed to continuous quality improvement by adhering to guidelines set forth by the Illuminating Engineering Society of North America (IESNA) and the Client.

At Architectural Lighting Design our focus has been to examine, review, select and design lighting systems that enhance the architectural features of a space while creating a comfortable, ergonomic environment for the user.

This in turn translates into an optimization of the space and the functions performed in it, within a sustainable basis and within generally accepted environmental constraints. A key issue is to address the interaction between human needs and desires, architecture and aesthetics, economics and budget constraints. In doing so, strive to create a harmonious balance between such considerations as practicality and innovation, rationality and image, consensus and originality.

As Lighting Design Specialists we have developed a wide range of lighting design services, from schematic design through to project completion.

aSKa applies a collaborative and client-oriented approach to the design process while providing to the most advanced technical means available; this approach supplements the most rigorous engineering perspective with a designer's outlook, inventiveness and sensitivity to a client's needs, and it bridges the gap between the Architect, the Contractor and Sub-Contractors, the Trades, the Engineers and the Client.



This is the NANO Lab workplace of lighting engineers, designers, architects, who can measure the potential of every new innovative idea.

All this is done through a realistic and immersive simulated experience created by a simulator specifically built to meet the aSKa's innovation Program and experimentation requirements.

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aSKa Optic-Design provides a complete range of optical design technology.

Our staff has extensive experience in optical design and analysis, optical software development, source modeling, and material characterization.

We have also personally trained lighting manufacturers throughout the world, teaching them lighting fundamentals, optical modeling and optical design techniques.

Through our wide range of clients, we have been able to gain experience in many industries and over large ranges of product.



## 1- LIGHTING INT. outside the Lamp

The light output is typically measured in lumen. A standardized procedure for testing projectors has been established by the American National Standards Institute, which involves averaging together several measurements taken at different positions. ANSI lumen measurements are in general more accurate than the other measurement techniques used in the lighting industry. This allows projectors to be more easily compared on the basis of their output performances.

## 2- Electric Power of the LAMP

The electric power required by an appliance or LAMP. Expressed in Watt.

For LAMPS it DOESN'T include the consumption of the DRIVER COMPATIBILITY GUIDE along with the light fixture.

## 3- Luminous efficacy of the LAMP















In lumen per watt, we are considering the efficiency of the driver, and of the optical layer in front of the lamp. This is the ratio between lumens measured in paragraph 1 and the total power of the device, given in paragraph 2.

## 4- Color Rendering Index(CRI\_Ra)

CRI means of the CIE 1994 special colour rendering indices for a specified set of test colour samples:

The first eight samples are relatively low saturated colors and are evenly distributed over the complete range of hues. These eight samples are employed to calculate the general color rendering index Ra.

The last six samples provide supplementary information about the color rendering properties of the light source; the first four for high saturation, and the last two as representatives of well-known objects.

TCS01	7,5 R 6/4	Light greyish red	
TCS02	5 Y 6/4	Dark greyish yellow	
TCS03	5 GY 6/8	Strong yellow green	
TCS04	2,5 G 6/6	Moderate yellowish green	
TCS05	10 BG 6/4	Light bluish green	
TCS06	5 PB 6/8	Light blue	
TCS07	2,5 P 6/8	Light violet	
TCS08	10 P 6/8	Light reddish purple	
TCS09	4,5 R 4/13	Strong red	
TCS10	5 Y 8/10	Strong yellow	
TCS11	4,5 G 5/8	Strong green	
TCS12	3 PB 3/11	Strong blue	
TCS13	5 YR 8/4	Light yellowish pink	
TCS14	5 GY 4/4	Moderate olive green	

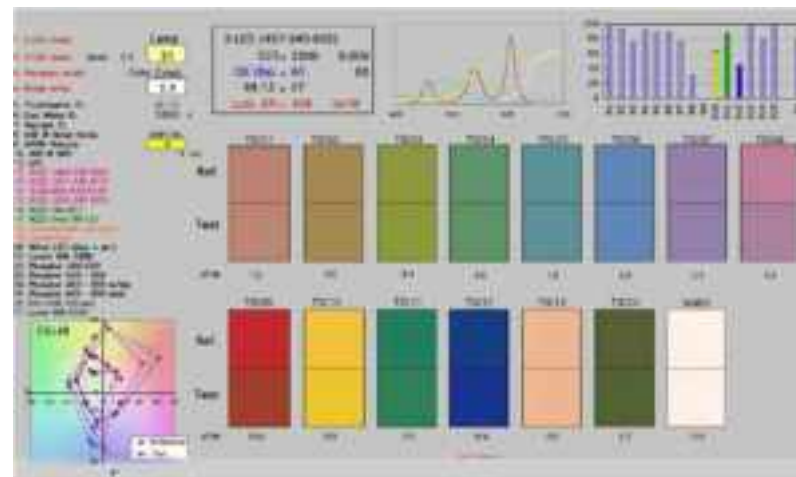
For luxury retail, please ask for CRI >90 but in some instances, we can find a CRI>90 renders woods too pink, or fabrics too flat.

Ultimately the material should be presented in front of a selection of finishes and materials that could be used for the definitive projects. The eye will be the last tool of appreciation of the rendering.

## 5- CTA\_R9 Value (Color Quality Scale(CQS)

CQS is a new metric that includes the 14 colors below + white.

It considers a number of factors in trying to define the way a light source reproduces colour. These include chromatic discrimination, human preference, and color rendering (the method evaluates 15 colors to more accurately span the range of normal object colors).



For now, CRI remains the only internationally recognized color rendering system. Whether the lighting industry, especially the solid-state category, will continue to use it for evaluating lighting applications remains to be seen.

## 6- Correlated Color Temperature(CCT in Kelvin)

Color temperatures over 5,000K are called cool colors (blueish white), while lower color temperatures (2,700–3,000 K) are called warm colors (yellowish white through red). This relation, however, is a psychological one in contrast to the physical relation implied by Wien's displacement law, according to which the spectral peak is shifted towards shorter wavelengths (resulting in a more blueish white) for higher temperatures. The color temperature of sunlight above the atmosphere is about 5,900 K.

Typical colour temperatures are:

High pressure sodium lamps: 2000K to 2200K

Tungsten filament light bulb: 2700K

Tungsten halogen lamps: 3000K

Fluorescent lamps: 2700K to 6500K

Metal halide lamps: 3000K – 5600K

Daylight: 5500K – 6500K

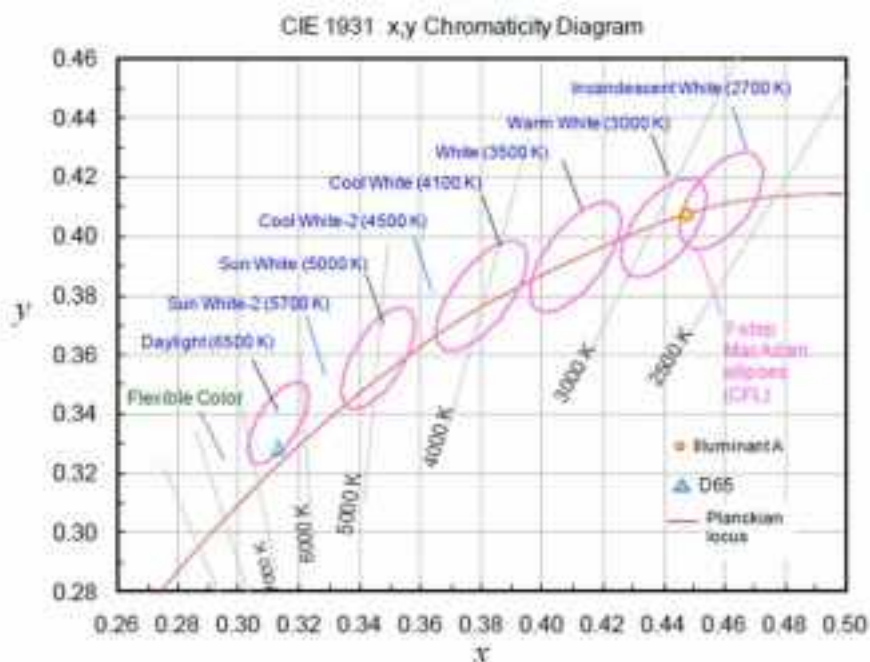


## 7- Binning and Color Consistency

In the same project, we want to have a restricted range of LED performance. During the production process, the led components are tested and sorted, so we call this notion the “binning”. The wider are the tolerances, the cheaper are the leds.

The first (and not very standardized) notion was the “Mac Adam Ellipse”: having a chromaticity at the center of the ellipse and any other light within the elliptical pattern of constant discriminability. Because the elliptical pattern was defined in terms of three standard deviations when making color matches it has been termed the 3-step MacAdam ellipse.

Now the led industry is having a new standard called “Standard Deviation Color Matching”, that describes the difference between two colors. This standard is based on the same concepts as David Mac Adam studies in the 1930s.



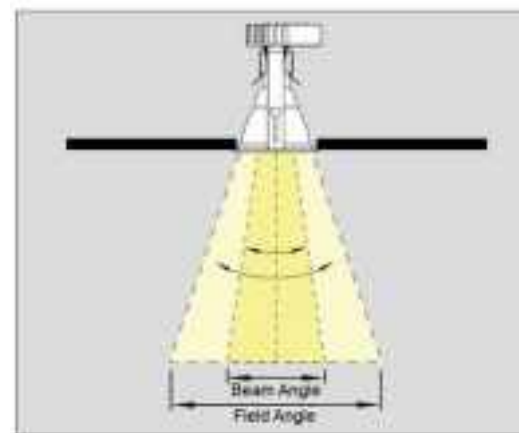
**FIGURE 5. COLOR MATCHING TOLERANCES DEFINED IN TERMS OF 7-STEP MACADAM ELLIPSES CENTERED ALONG THE BLACK BODY CURVE. THE ELLIPSES SHOWN ARE DESIGNATED CCTs FOR CFLs.**  
SOURCE: NIST

A difference of one to three SDCM “steps” is virtually imperceptible, a difference of four SDCM steps is just noticeable, and a difference of more than four SDCM steps is readily visible.

## 8- Beam angle/Field Angle

Angle between two imaginary lines in a plane through the optical beam axis, such that these lines pass through the center of the front face of the lamp and through points at which the luminous intensity is 50 % of the Centre beam intensity. [IEC/TR 61341:2010, 2.4]

Field angle is described as the angle of the beam of light where it reaches 10% of the intensity of the center of the beam. See illustration below:



We also want to look at the color consistency throughout the beam and field angle and its overall cleanliness / smoothness.

## 9- Engineering Tilt angle / Pan angle Design

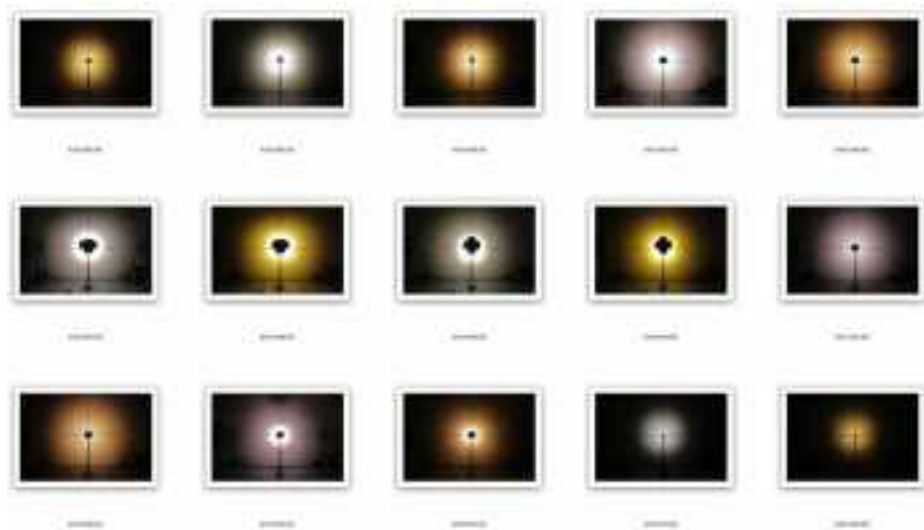
Self-explaining.

These describe the ability of the light beam to be directed towards a target. The angles described should match the angle measured on the physical sample provided by aSKa.



## 10- Beam image

The quality of the light beam is determined by the continuity of the image of the power of the light. Some bat LAMPs are showing the scaled image of the component when oriented on a matte white surface. See illustration hereafter:



Today the workgroup is not clear on the method of qualification of the Beam Image, so we keep pure physical experimentation to qualify LAMPs.

The results can be communicated and compared by a photo taken of a pure matte white wall illuminated only by the LAMP, at 2m.

In other words, the left illustration above depicts multiple shadows generated by a multiple source LAMP. The right illustration depicts a single shadow generated by a single source LAMP.

## PART II : DRIVER COMPATIBILITY GUIDE PERFORMANCES

### 1- Constant Current Regulation or PWM?

Why use CCR?

For LAMPs that need to be rated as UL Class 2 for dry or damp locations, there is a lower output voltage limit for Class 2 LAMPs that use PWM (42.4 volts for PWM frequency > 200 Hz) than those that use CCR (60 volts). Therefore, a Class 2 DRIVER COMPATIBILITY GUIDE that uses PWM will not be able to provide as much voltage as one that uses CCR.

By definition, PWM power supplies have to run at frequencies high enough to be imperceptible to the human eye. The higher the frequency, the less likely someone is to observe flicker. Frequencies below 200Hz may be observable in peripheral vision, and even higher frequencies are required to eliminate stroboscopic effects in fast motion environments. However, higher-frequency power supplies are generally more complex and expensive to manufacture, especially when low light levels are desired. Other programs, such as Energy Star, may place minimum requirements on PWM frequency.

Because of the fast rising and falling edges of a PWM driver (faster edges allow for higher frequencies and lower light levels), electromagnetic interference (EMI) can be generated. This EMI may not be suitable for certain applications.

PWM drivers, due to their fast edges, may experience performance issues if mounted remotely from the light source. This is because the electrical characteristics (capacitance and inductance) of the long wire runs interfere with the fast rise and fall times required for precise light levels. CCR drivers can be placed remotely from the spotlights.

Another feature to look after is the ability for a set driver to deliver a pre-programmed amount of intensity, therefore enabling energy savings

### 2- Minimum Wattage in sleepmode

Some products consume almost as much power in the "off" state as they do in the "on" state. Energy star for SSL requires "off" state power draw to be less than 0.5 watts.

### 3- Inrush Current of the drivers

The inrush is important if you use a lot of drivers. This is defined in ampere. Also mind the protections of your circuits with Curve D circuit breaker. Instead, the ampere figure is preceded by a letter "B", "C" or "D" that indicates the *instantaneous tripping current*, that is the minimum value of current that causes the circuit-breaker to trip without intentional time delay (i.e., in less than 100 ms), expressed in terms of  $I_n$ :

## PART II : DRIVER COMPATIBILITY GUIDE PERFORMANCES

### 4- Efficiency of the drivers

For a 75% efficient DRIVER COMPATIBILITY GUIDE to produce 75 W of DC output it would require 100 W of AC input and dissipate the remaining 25 W in heat.  
Higher-quality power supplies can be over 80% efficient; energy efficient PSU's waste less energy in heat, and requires less airflow to cool, and as a result will be quieter.

### 5- Power Factor = $\cos\phi$ + Total Harmonic Distorsion

The power factor describes the drawn current deviation from sinusoidal flow, and the harmonics. This is a dimensionless number between -1 and 1. A high power factor is generally desirable in a transmission system to reduce transmission losses and improve voltage regulation at the load.  
Please follow Class C (EN61000-3-2).



## PART III : TEST ENVIRONMENT

Performance excellence requires advanced processes and specialized, integrated skills. This is why we have decided to work together with the most reliable partners worldwide: to ensure we have the best components, to share information and to guarantee that everything is in line with the most up-to-date technology.

### Quality Control Policy ;

PTG implement strict QC measures according to the customers' standard. QC staffs are experienced and also we equipped with advanced measuring instrument. In addition our R&D department provides technical support in the entire production process.



Besides strictly supervise the quality of raw materials and each stage of production situation, our quality inspectors also must double check the products' quality before delivery. Every effort we made to ensure that our customers received the most reliable products.

Customer satisfaction is our motivation, we are committed to serve more customers with higher quality products, we believe that through our efforts will have more customers choose and recognize us.

## Production ;

With tremendous high-tech talents equipped with optoelectronics skills and fully automatic import advanced production equipment, we engage ourselves in the production of products LED photoelect. We design professional solutions and provide perfect after-sale service according to the requirements of different customers.

Highlight has built up a full set of the producing equipment. Our products have been granted qualification certificates of CE, ROHS, ISO9001-2008. Highlight has capability of mass production. Our main products show as follows:

Live capacity: **15 000 CPH**



Showroom and meeting room



Auto SMD line



Assembly workshop



SMD production machine



Integrating sphere

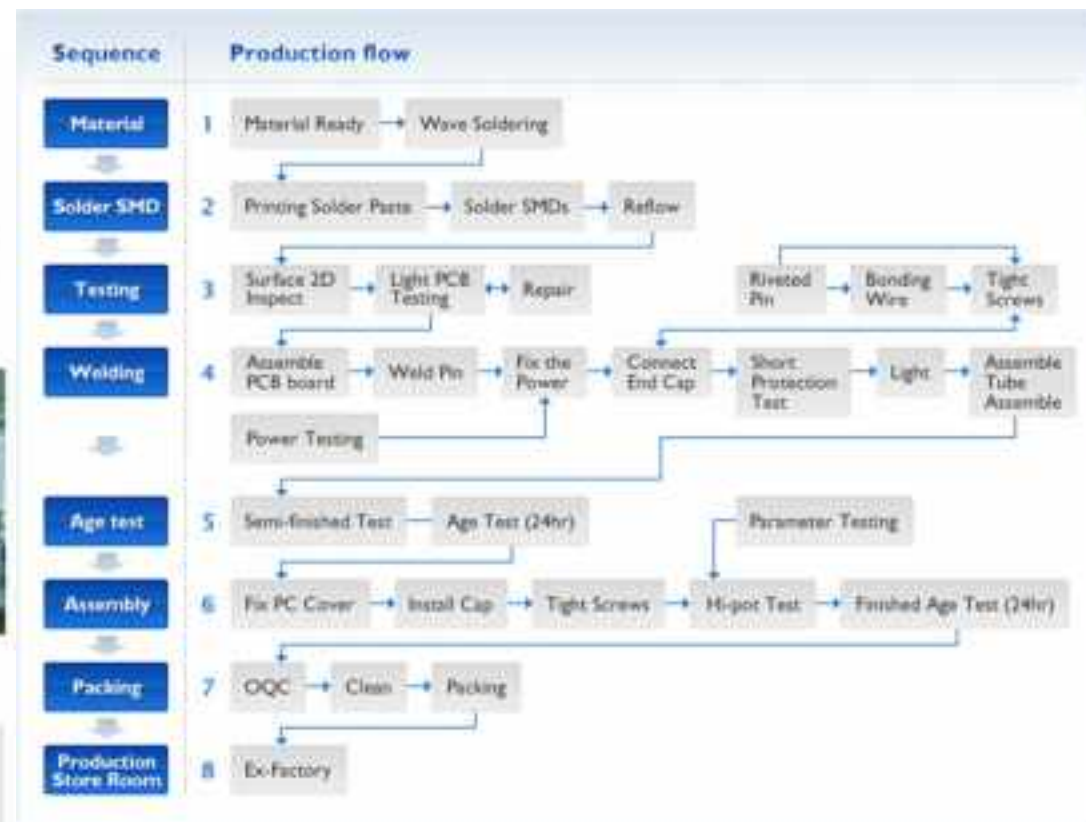


Wave soldering machine

## Production ;

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