# Gople

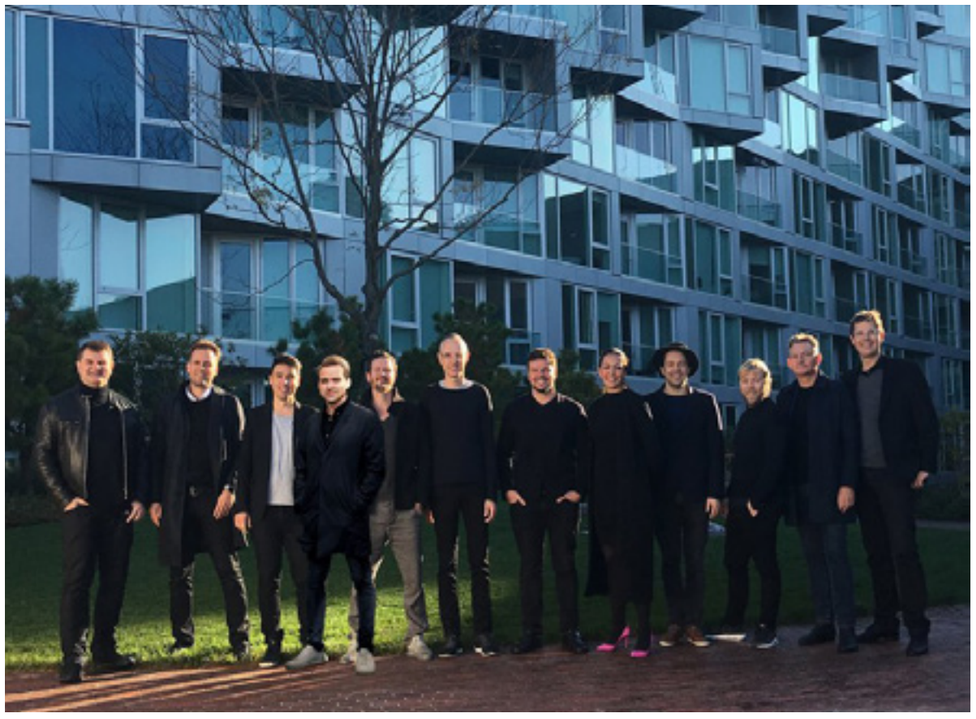
by

BIG - Bjarke Ingles Group

Artemide®

# Authors
## ↪ BIG - Bjarke Ingles Group

BIG is a group of architects, designers and thinkers operating within the fields of architecture, urbanism, research and development with offices in Copenhagen and New York City. BIG has created a reputation for completing buildings that are as programmatically and technically innovative as they are cost and resource conscious. In our architectural production, we demonstrate a high sensitivity to the particular demands of site, context and program.
BIG's recently completed projects including the Danish Maritime Museum (2013), Superkilen (2012), the 8 House (2010) in addition to our first project the Copenhagen Harbor Bath (2003), an urban space that transformed the area of Islands Brygge from a rundown harborfront to the recreational and social center of the city.
Current projects under construction include: West 57th, a 750-unit residential building in Manhattan; the Vancouver House tower in Vancouver; the LEGO Brand House in Denmark; the Faroe Islands Education Center; the Shenzhen Energy Mansion in China; and a Wasteto-Energy plant in Copenhagen that will double as a ski slope.



# Gople

## BIG - Bjarke Ingles Group
## ↪ 2018

The basic form of the Gople lamp enhances the beauty of glass, hand-made according to an ancient Venetian technique that gradually turns white glass into crystal glass by combining both upon blowing, thus making each piece unique. Gople is realized also with more innovative finishes made with a sustainable metal vaacum deposition process.

From the point of view of environmental-friendliness, “sputtering” is the absolutely cleanest coating technology for the type of metal used and because all emissions are abated, in particular those into the atmosphere of sulphuric acid and cyanides produced by galvanic processes. Solid paint with up to 5% of solvents (compared to 75% of traditional products) is employed for the successive protective clearcoat phase.
The process generates very little waste and the resulting finish is particularly resistant over time.

In both cases, glass finishing is designed to ensure the best relation with the emitted light, screening the source and maximizing direct emission through transparency. The most basic version with the traditional E27 or E14 socket is a timeless solution for its flexibility in adjusting to the development of standard source technologies.

# ↗ The Murano Glass

The glass diffuser is produced according to ancient Venetian glass-blowing techniques.
Each product is a unique piece.
The white silk glass helps diffuse a soft glow, as light fills the pill shaped diffuser.

# ↗ Savoir Faire

The human and responsible light goes hand in hand with design and material savoir faire, combining next-generation technology with ancient techniques. It is a perfect expression of sustainable design.

Cristal glass with
**Silver** metallization

Cristal glass with
**Sapphire Blue** metallization

Cristal glass with
**Bronze** metallization

Cristal glass with
**White** gradient

Cristal glass with
**Copper** metallization

## ↗ Sustainable **Finishes**

Silver, bronze, copper and blue finishes are made with an innovative and sustainable Metal vacuum deposition process:

- 0 emissions, 0 waste
- Solid protective clearcoat
- Only 5% of solvents
(traditional systems: 75% of solvents)

# Gople RWB

Gople Lamp reconciles human spaces and nature through light.
A mouth-blown glass produced according to an ancient traditional venetian technique encloses a patented RWB light technology that helps plants grow, creates scenic or ambiance effects, and provides functional white lighting.
The RWB system, patented in 2011, is a new paradigm, a different way to approach coloured light – no longer RGB (red-green-blue) for man's psychophysical wellbeing, but rather RWB (red- white-blue) for a light that is respectful of man and the environment.

Gople Lamp RWB calibrates its emissions according to the PPFD (Photosynthetic Photon Flux Density) values required in two phases where appropriate supply of light is crucial: the multiplication phase is accompanied by blue radiations with a 425-450 nm wavelength, whereas the blooming phase is supported by red radiation between 575 and 625 nm.

Gople combines direct and controlled RWB emission with white indirect diffused light that can be controlled separately.

# RWB
# ↪Technology

## ↗ LIGHT FEEDS NATURE

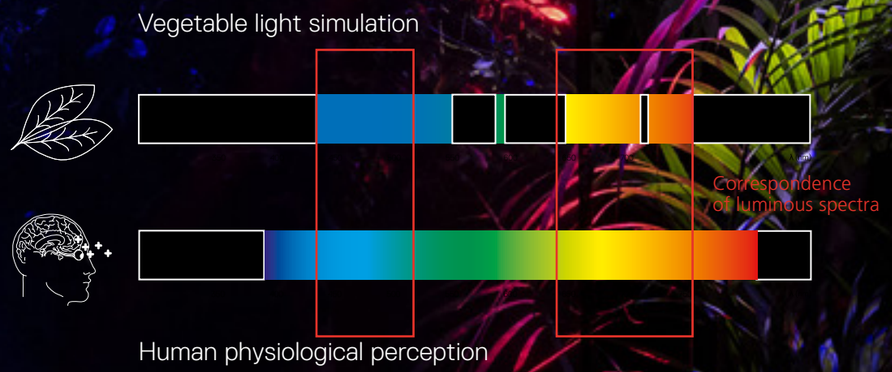
Activating plants natural growth
RWB technology
Photosynthesis: $co_2$+ $h_2o$ → light → oxygen and food

## ↗ LIGHT FEEDS MAN

Sustaining perception and emotion
to enhance new life qualities

## ↗ LIGHT FEEDS PLANET

Generating sustainable models
and ethic consciousness




## PATENT OF INVENTION

PATENT Nº MI2010A000657 - RWB technology
PATENT Nº MI2010A000185 - Light parcelization and thermal balance

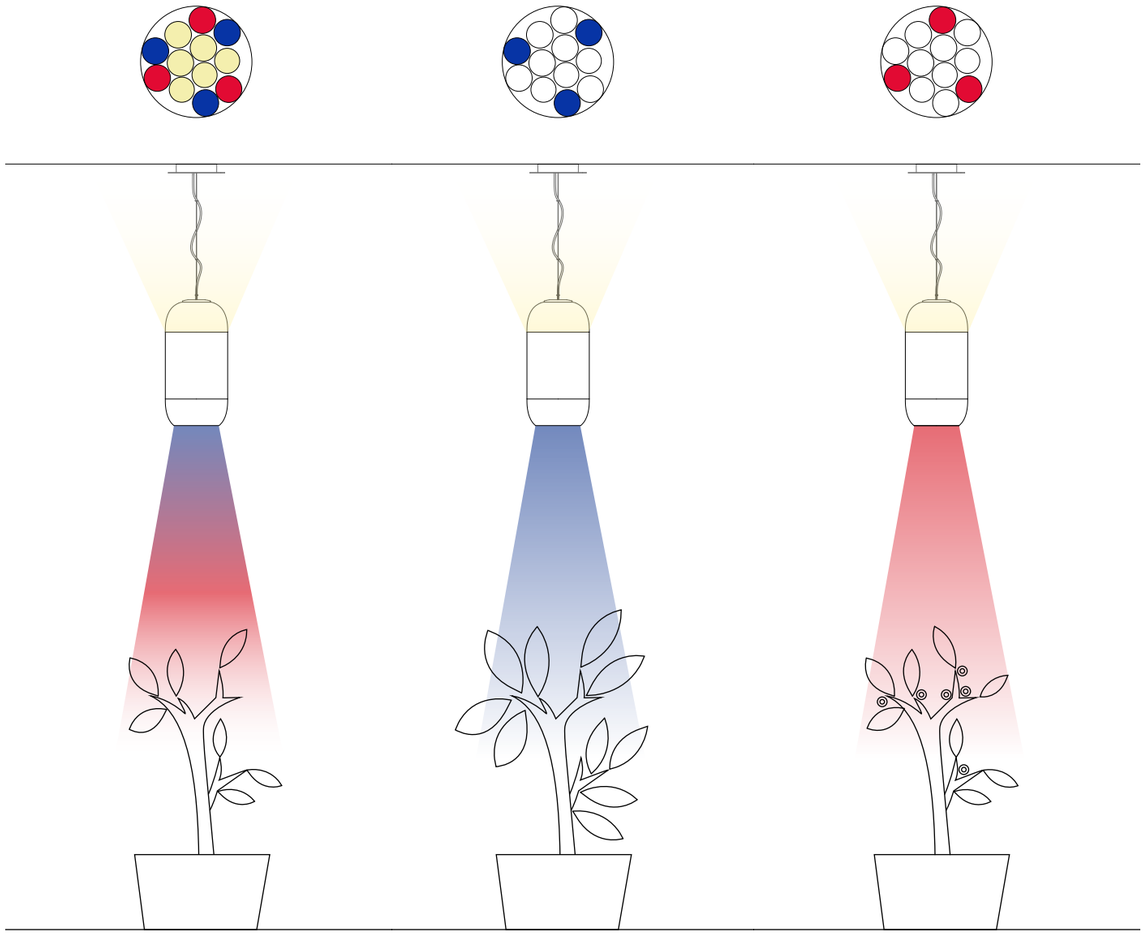
The RWB technology is a lighting system to provide light for domestic plants maintenance and human wellness. Artemide thoroughly investigates light through technological, scientific and humanistic research while creating high-tech innovation such as invention patents.

Gople RWB embodies the results of Artemide's research for the development of a Human & Responsible Light..

→ “La Nazione delle Piante” Broken Nature, Triennale di Milano | 2019

Broken Nature, Triennale Milano, 2019

# ↗ Feeding The Nature
# Wavelength Properties



**Red + Blue + White**
**General growing**
**by chlorophyllian synthesis**

Power: 21,4W
Net flux: 1171 lm

**+ 3000K White Indirect Emission**
Power: 31W
Net flux: 1600 lm

**Blue**
**Leaves growing**

Power: 6,1W
Net flux: 75 lm

**+ 3000K White Indirect Emission**
Power: 17W
Net flux: 540 lm

**Red**
**Flowering**

Power: 5W
Net flux: 106 lm

**+ 3000K White Indirect Emission**
Power: 15W
Net flux: 590 lm

# ↗ Feeding The Nature Geometrical Tips

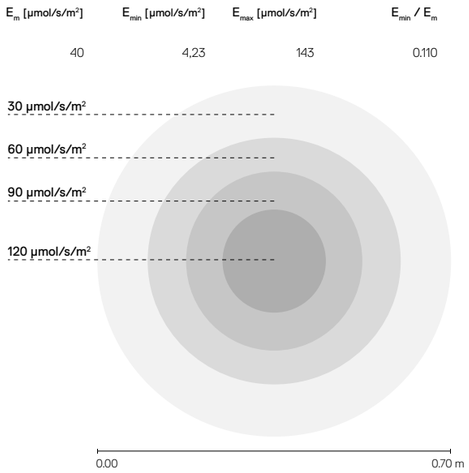
Gople RWB is a lamp that provides light for maintenance of domestic plants already grown,
not for horticulture purpose.
Gople RWB has an optical engine placed inside a glass body.
In order to send the maximum of the light out off the glass, the emission of the lamp is quite narrow.

For this reason, to illuminate the plants we should respect the following geometrical tips.
The best way to use Gople RWB is to place the target (plant) inside a 26° cone angle, an example of this condition is shown in the picture below.
At 150 cm the PPFD performance is like in the picture on the side. **Fg.11a-b**

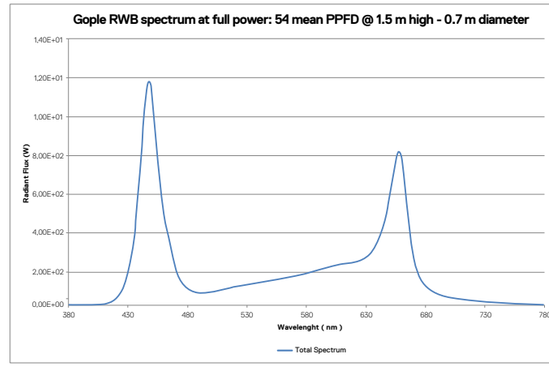


**Red**
**Blue**
**White 3000K**

Power: 31 W
Net flux: 1606 lm



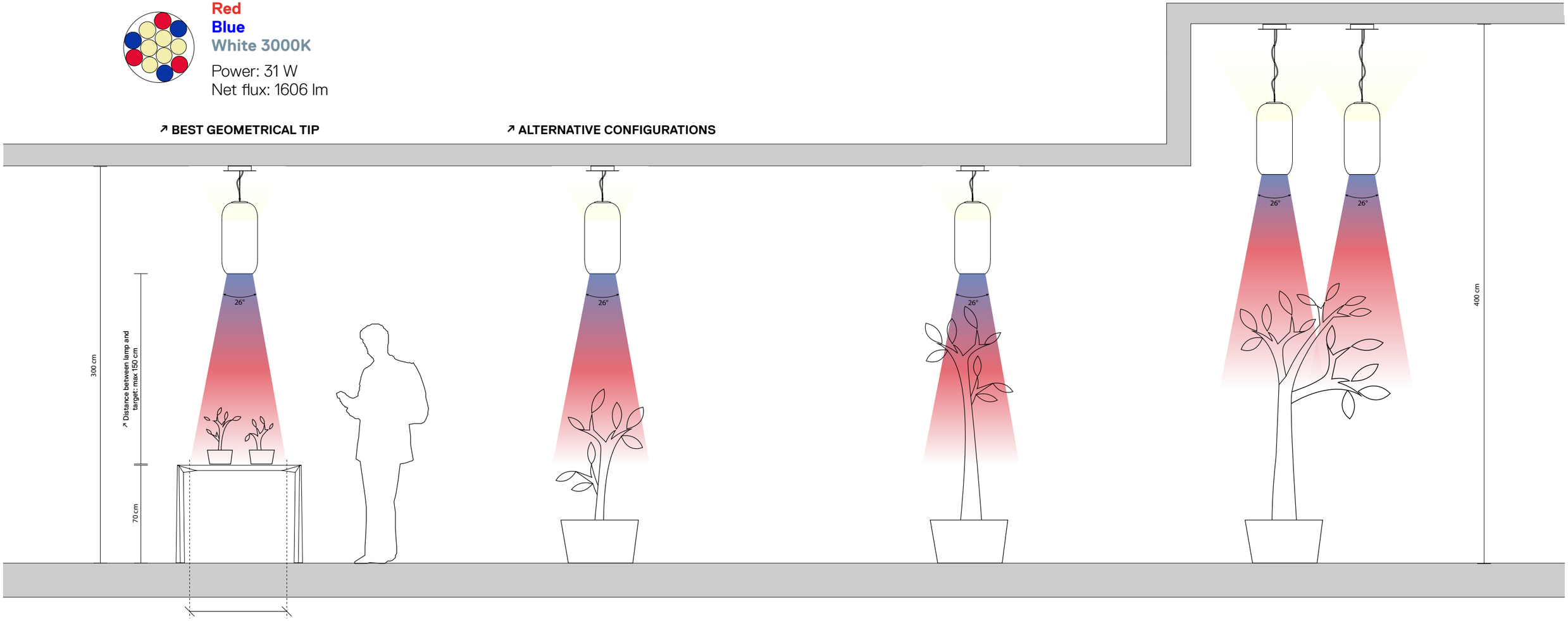

Fg.11a Gople RWB- PPFD Map @1,5m




Fg.11b Gople RWB spectrum

**↗ BEST GEOMETRICAL TIP**

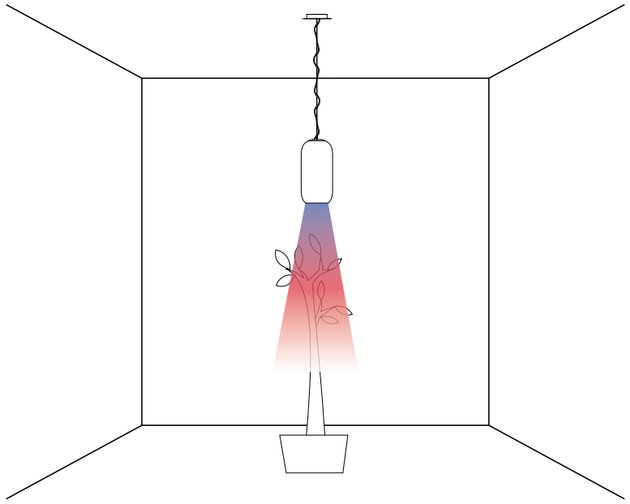
**↗ ALTERNATIVE CONFIGURATIONS**



# ↗ Feeding The Nature Technology Recipes

Gople RWB and Una Pro RWB are lamps that provide light for maintenance of domestic plants already grown, not for horticulture purpose.
Here you can find the illumination request (in Lux and ppfd) for the main domestic plants and for some aromatic herbs.
Aiming at ensuring a natural day/night light cycle for the plant, please use Gople RWB and Una Pro RWB at their maximum power (100% RED – 100% WHITE – 100% BLUE) for a minimum of 12 hours per day. For example from 7 AM to 7 PM.
During the summer, you can illuminate the plants for more time, following the duration of the day in your country.
Lighting scenography during the night time, you can create atmosphere with few light, but remember that plants need dark too.

## Lighting for plants during sun-hours and night-time



**During sun-hours**

12h

100%
100%
100%

**During night-time**

12h

0%
0%
0%

## Lighting scenography during night-time

12h

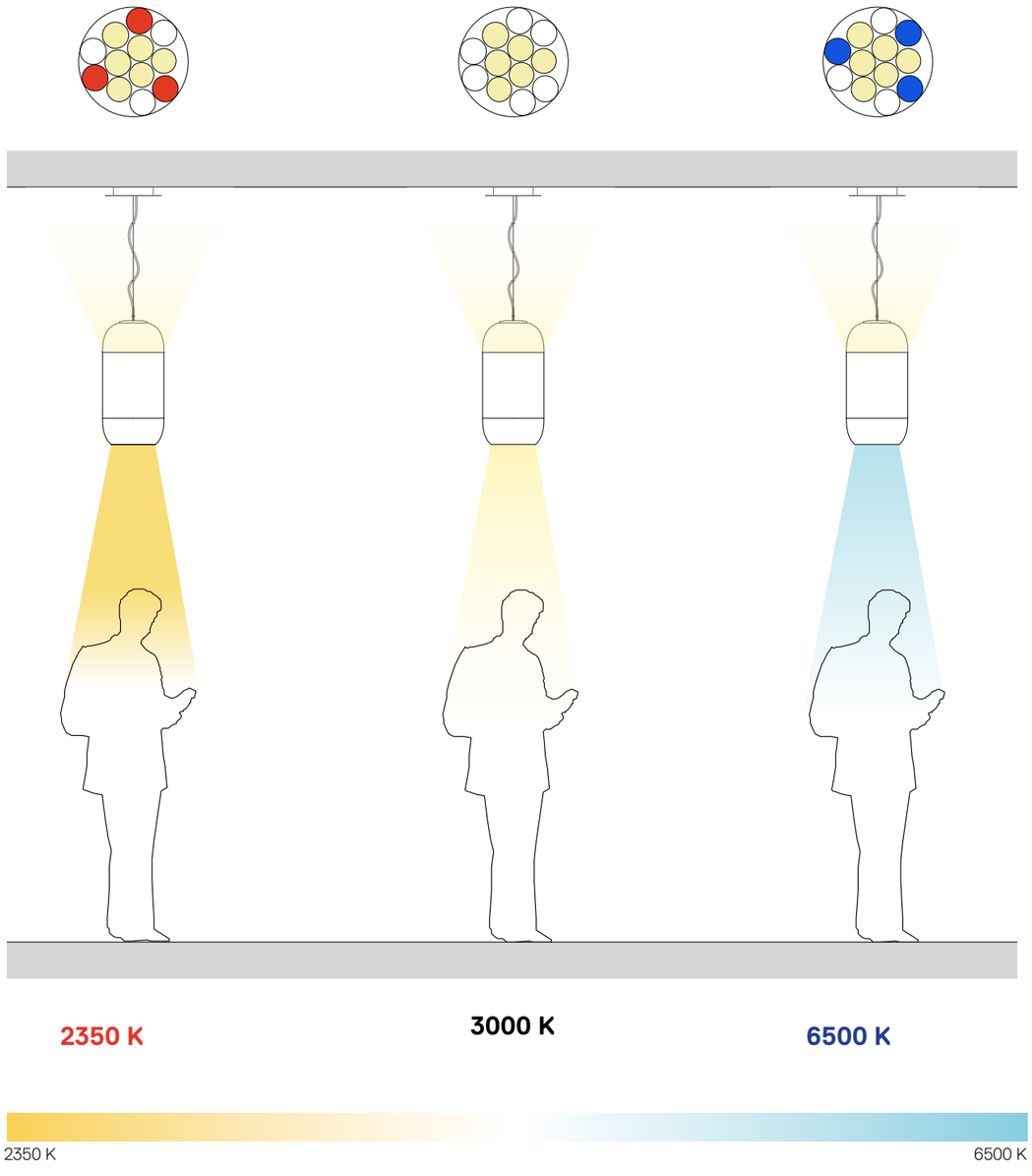
| | | | | | | |
|---|---|---|---|---|---|---|
| 20% | 20% | 0% | 20% | 20% | 0% | 0% |
| 20% | 0% | 20% | 20% | 0% | 0% | 20% |
| 20% | 20% | 20% | 0% | 0% | 20% | 0% |

maximum intensity recommended to set a lighting scenography

# ↗ The Human Light

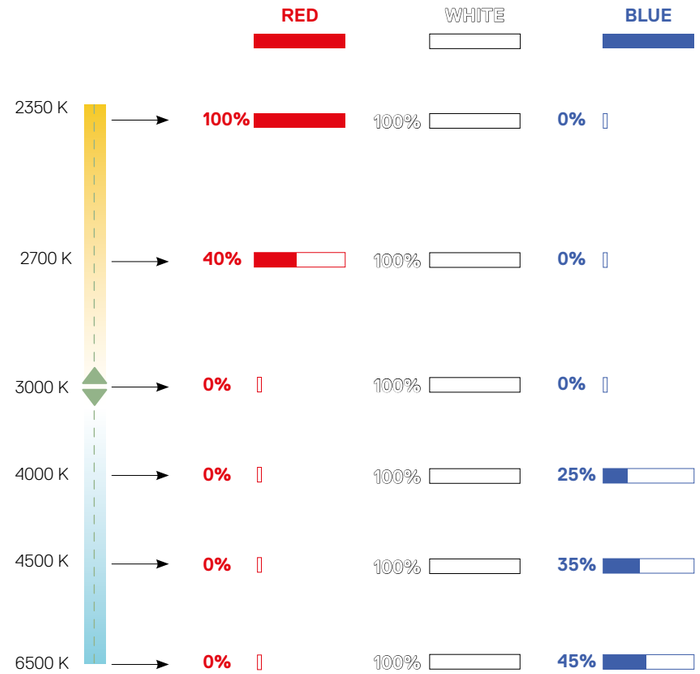
Gople Lamp is the perfect example of Artemide's guiding philosophy of "The Human Light". It aspires to create light that is good for the wellness of man and for the environment that has a positive impact on our quality of life.

# ↗ Feeding Man
# Wavelength properties

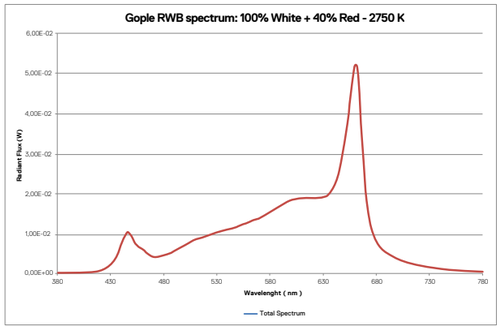



## TUNABLE WHITE

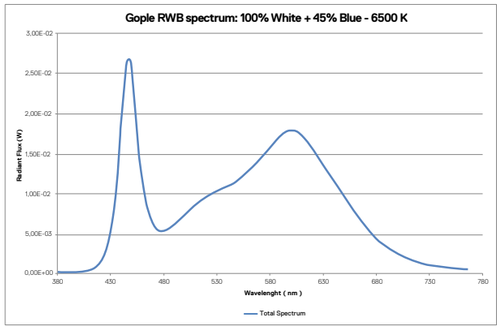
↗ The choice of color temperature determines the automatic setting of the channels (R-W-B)




Using White as main channel and Red and Blue as additional channel, we can get from RWB Gople Lamp white light with color temperature variable from 2350 to 6500 K.




Una Pro RWB 100% white + 40% Red spectrum

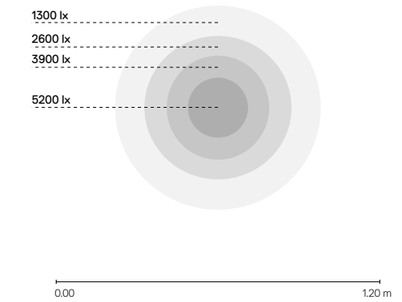


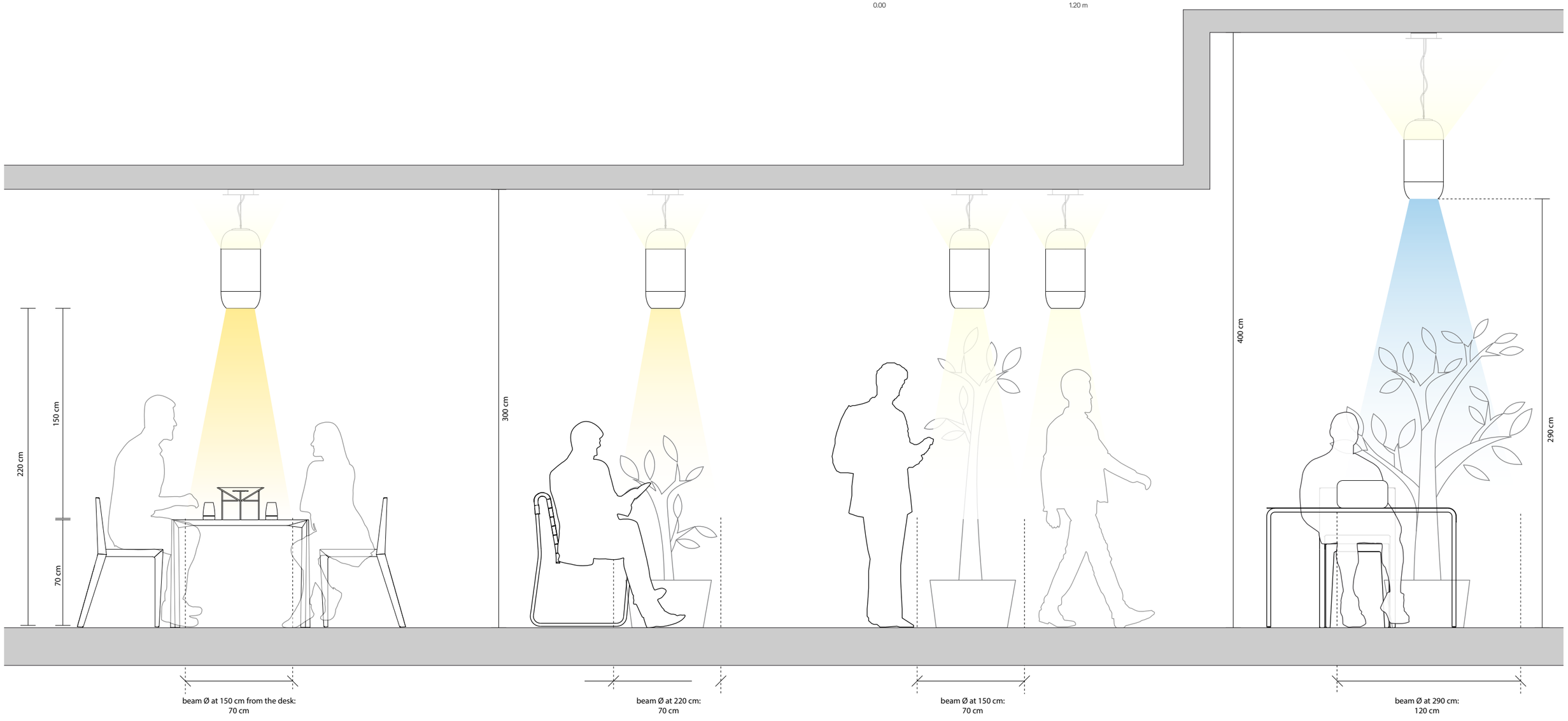

Una Pro RWB 100% white + 45% Blue spectrum

# ↗ Feeding Man
# Geometrical tips

Gople RWB can provide the right light for human by simply adding RED and BLUE radiation the the main channel WHITE in order to create the desired color temperature.

| $E_m$ [lx] | $E_{min}$ [lx] | $E_{max}$ [lx] | $E_{min}$ / $E_m$ | $E_{min}$ / $E_{max}$ |
|---|---|---|---|---|
| 683 | 40 | 6241 | 0.059 | 0.006 |




2350 K — 6500 K

Relax and rest ambience

Attention and concentration ambience

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# Gople Family

**Materials:**

aluminum body, blown glass diffuser

**Colours:**

cristal glass with white gradient / with silver metallization / with copper metallization / with bronze metallization / with sapphire blue metallization

**Dimensions:**

Gople diffuser: ø210 mm x 420mm
Gople Mini diffuser: ø145 mm x 300mm

**Gople**

Total Power: 1x20W LED dim (E27)

**Gople Mini**

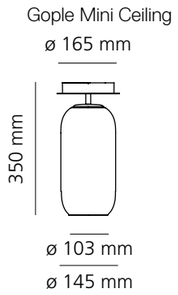
Total Power: 1x6W LED (E14)

**Gople RWB**
**RWB Direct Emission**

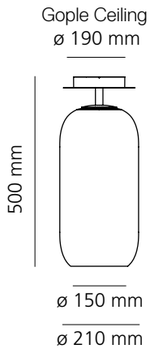
Total Power: 21w
Delivered Luminous Flux: 1170lm (CRI=90)

**White 3000k Indirect Emission**

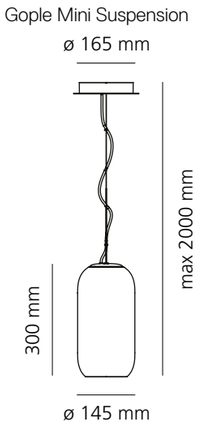
Total Power: 11w
Delivered Luminous Flux: 600lm (LED) (CRI=90)



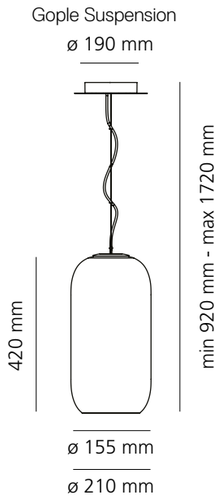

Gople Mini Ceiling



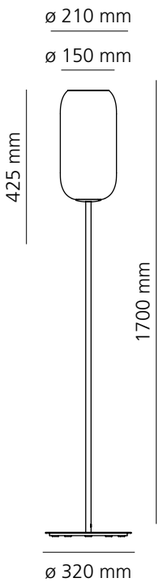

Gople Ceiling



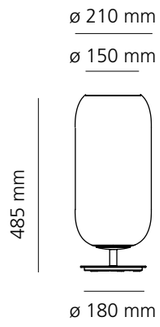

Gople Mini Suspension



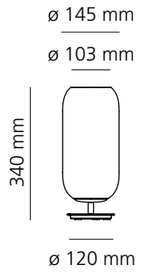

Gople Suspension




Gople Floor




Gople Table




Gople Mini Table

# Gople Family

## GOPLE RWB

| DIRECT + INDIRECT EMISSION | | DMX | DALI |
|---|---|---|---|
| W | Lm | Code | Code |
| 32 W | 1770 | 1407110A | 1407010A |

## GOPLE SUSPENSION

| WHITE DIFFUSER | SILVER STRUCTURE | WHITE STRUCTURE |
|---|---|---|
| W | Code | Code |
| 20 W | 1405020A | 1405220A |

| SILVER DIFFUSER | SILVER STRUCTURE |
|---|---|
| W | Code |
| 20 W | 1405010A |

| BLUE DIFFUSER | SILVER STRUCTURE | BLACK STRUCTURE |
|---|---|---|
| W | Code | Code |
| 20 W | 1405050A | 1405350A |

| COPPER DIFFUSER | SILVER STRUCTURE | BLACK STRUCTURE |
|---|---|---|
| W | Code | Code |
| 20 W | 1405040A | 1405340A |

| BRONZE DIFFUSER | SILVER STRUCTURE | BLACK STRUCTURE |
|---|---|---|
| W | Code | Code |
| 20 W | 1405060A | 1405360A |

## GOPLE CEILING

| WHITE DIFFUSER | SILVER STRUCTURE | WHITE STRUCTURE |
|---|---|---|
| W | Code | Code |
| 20 W | 1413020A | 1413220A |

| SILVER DIFFUSER | SILVER STRUCTURE |
|---|---|
| W | Code |
| 20 W | 1413010A |

| BLUE DIFFUSER | SILVER STRUCTURE | BLACK STRUCTURE |
|---|---|---|
| W | Code | Code |
| 20 W | 1413050A | 1413350A |

| COPPER DIFFUSER | SILVER STRUCTURE | BLACK STRUCTURE |
|---|---|---|
| W | Code | Code |
| 20 W | 1413040A | 1413340A |

| BRONZE DIFFUSER | SILVER STRUCTURE | BLACK STRUCTURE |
|---|---|---|
| W | Code | Code |
| 20 W | 1413060A | 1413360A |

## GOPLE FLOOR

| WHITE DIFFUSER | SILVER STRUCTURE | WHITE STRUCTURE |
|---|---|---|
| W | Code | Code |
| 20 W | 1410020A | 1410220A |

| SILVER DIFFUSER | SILVER STRUCTURE |
|---|---|
| W | Code |
| 20 W | 1410010A |

| BLUE DIFFUSER | SILVER STRUCTURE | BLACK STRUCTURE |
|---|---|---|
| W | Code | Code |
| 20 W | 1410050A | 1410350A |

| COPPER DIFFUSER | SILVER STRUCTURE | BLACK STRUCTURE |
|---|---|---|
| W | Code | Code |
| 20 W | 14100040A | 14100340A |

| BRONZE DIFFUSER | SILVER STRUCTURE | BLACK STRUCTURE |
|---|---|---|
| W | Code | Code |
| 20 W | 1410060A | 1410360A |

## GOPLE TABLE

| WHITE DIFFUSER | SILVER STRUCTURE | WHITE STRUCTURE |
|---|---|---|
| W | Code | Code |
| 20 W | 1408020A | 1408220A |

| SILVER DIFFUSER | SILVER STRUCTURE |
|---|---|
| W | Code |
| 20 W | 1408010A |

| BLUE DIFFUSER | SILVER STRUCTURE | BLACK STRUCTURE |
|---|---|---|
| W | Code | Code |
| 20 W | 1408050A | 1408350A |

| COPPER DIFFUSER | SILVER STRUCTURE | BLACK STRUCTURE |
|---|---|---|
| W | Code | Code |
| 20 W | 1408040A | 1408340A |

| BRONZE DIFFUSER | SILVER STRUCTURE | BLACK STRUCTURE |
|---|---|---|
| W | Code | Code |
| 20 W | 1408060A | 1408360A |

# Gople Mini Family

## GOPLE MINI SUSPENSION

| WHITE DIFFUSER | SILVER STRUCTURE | WHITE STRUCTURE |
|---|---|---|
| W | Code | Code |
| 20 W | 1406020A | 1406220A |

| SILVER DIFFUSER | SILVER STRUCTURE |
|---|---|
| W | Code |
| 20 W | 1406010A |

| BLUE DIFFUSER | SILVER STRUCTURE | BLACK STRUCTURE |
|---|---|---|
| W | Code | Code |
| 20 W | 1406050A | 1406350A |

| COPPER DIFFUSER | SILVER STRUCTURE | BLACK STRUCTURE |
|---|---|---|
| W | Code | Code |
| 20 W | 1406040A | 1406340A |

| BRONZE DIFFUSER | SILVER STRUCTURE | BLACK STRUCTURE |
|---|---|---|
| W | Code | Code |
| 20 W | 1406060A | 1406360A |

## GOPLE MINI TABLE

| WHITE DIFFUSER | SILVER STRUCTURE | WHITE STRUCTURE |
|---|---|---|
| W | Code | Code |
| 20 W | 1409020A | 1409220A |

| SILVER DIFFUSER | SILVER STRUCTURE |
|---|---|
| W | Code |
| 20 W | 1409010A |

| BLUE DIFFUSER | SILVER STRUCTURE | BLACK STRUCTURE |
|---|---|---|
| W | Code | Code |
| 20 W | 1409050A | 1409350A |

| COPPER DIFFUSER | SILVER STRUCTURE | BLACK STRUCTURE |
|---|---|---|
| W | Code | Code |
| 20 W | 1409040A | 1409340A |

| BRONZE DIFFUSER | SILVER STRUCTURE | BLACK STRUCTURE |
|---|---|---|
| W | Code | Code |
| 20 W | 1409060A | 1409360A |

## GOPLE MINI CEILING

| WHITE DIFFUSER | SILVER STRUCTURE | WHITE STRUCTURE |
|---|---|---|
| W | Code | Code |
| 20 W | 1414020A | 1414220A |

| SILVER DIFFUSER | SILVER STRUCTURE |
|---|---|
| W | Code |
| 20 W | 1414010A |

| BLUE DIFFUSER | SILVER STRUCTURE | BLACK STRUCTURE |
|---|---|---|
| W | Code | Code |
| 20 W | 1414050A | 1414350A |

| COPPER DIFFUSER | SILVER STRUCTURE | BLACK STRUCTURE |
|---|---|---|
| W | Code | Code |
| 20 W | 1414040A | 1414340A |

| BRONZE DIFFUSER | SILVER STRUCTURE | BLACK STRUCTURE |
|---|---|---|
| W | Code | Code |
| 20 W | 1414060A | 1414360A |

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