MARTINI
L I G H T

"make your white"

light+building 2014

HD Retina Led

HD Retina LED comes from the “unexpected” idea of reversing the usual concept of lighting.
HD Retina LED is a high definition LED that saturates either warm and cold colours at the same time, making them pleasant on the human eye and giving them their natural colour. This is why this type of LED is suitable for different applications, when different colour objects need to be illuminated all together, like in general lighting.
The HD Retina project develops the intuition of Giorgio Martini, Deputy Chairman of the company: “it’s not so important to see how to light up things in the best way, but to study how the human eye build colors in our mind”.
The innovation has been, indeed, a completely different prospective: a colour is not a physical characteristic of objects, but it is the visual perception coming from the light which illuminates them. On the other hand, when we look at something and we think about it in our memory, the same object will always be associated with a single, unique colour, which we identify as familiar and perceive as its “real”, or “ideal” colour.
HD Retina LED is a technology getting colours matching the ones memory associates with familiar objects, with an excellent balance of colours saturation and fidelity.

3000K RA/CRI: 97

3000K RA/CRI: 97

HD RETINA LED

4000K RA/CRI: 80

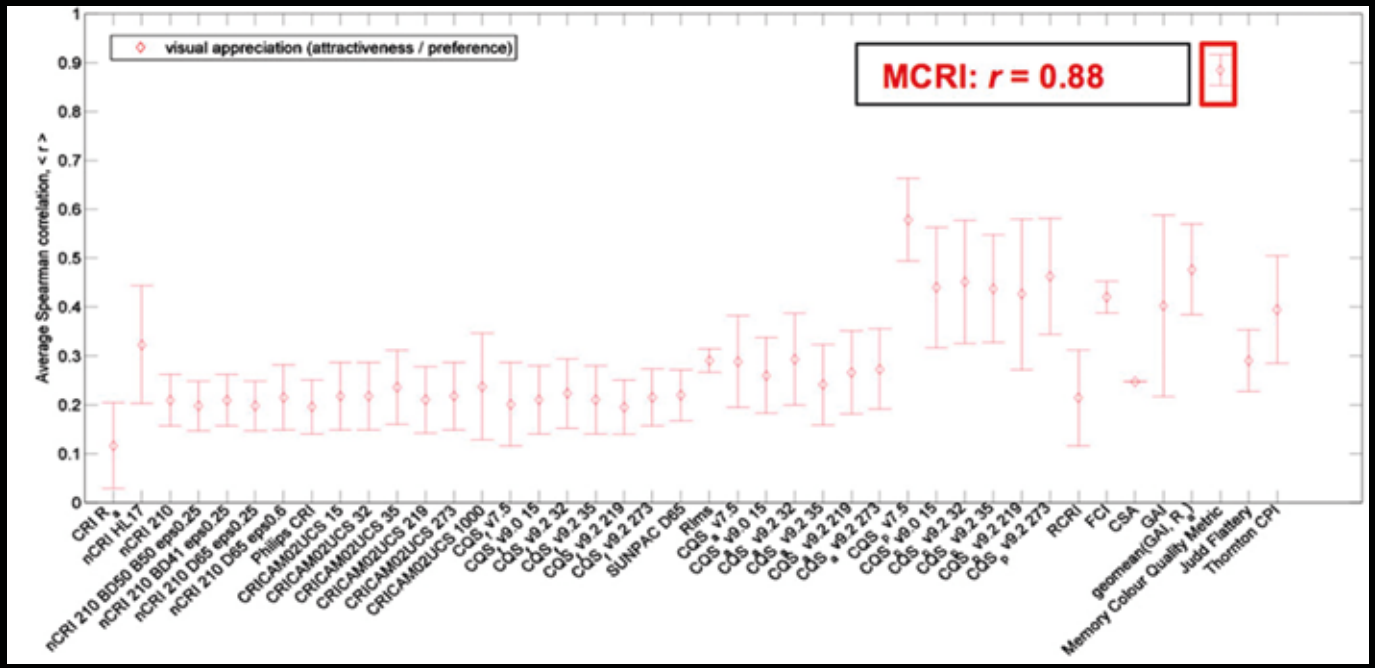
HD RETINA LED

4000K RA/CRI: 80

A MEMORY COLOUR RENDITION METRIC, RM

Kevin Smet
Light and Lighting Laboratory, Catholic University College Ghent, Belgium - KU Leuven, Postdoctoral Fellow of Research Council Flanders

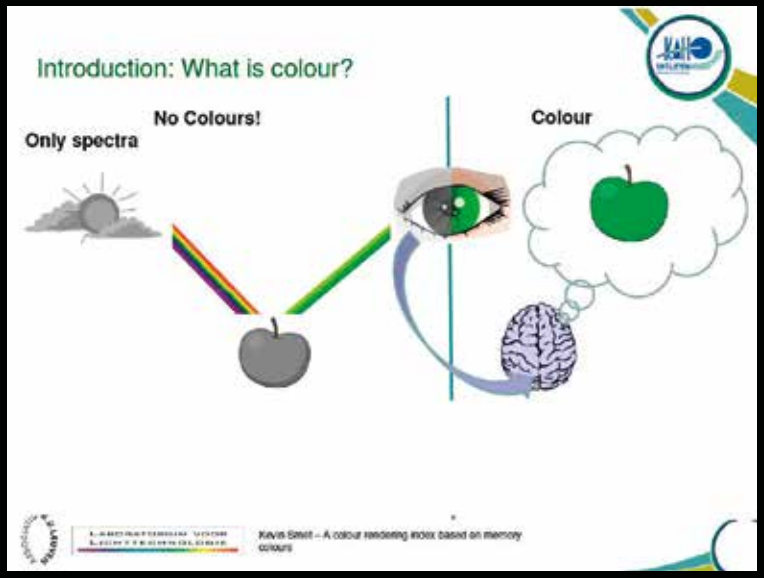
The impact of the light source spectrum on the colour appearance of objects is traditionally quantified by the colour rendering index Ra (CRI) developed by the International Commission on Illumination (CIE). Colour rendition is assessed as fidelity with a CIE reference illuminant: the smaller the colour differences between a set of coloured cards illuminated by the test source and its CIE reference illuminant, the higher the fidelity (resemblance) and thus the higher the Ra value. Although such a colour difference based metric is required for many professional applications - colour reproduction, printing and quality control - several visual studies(1-7) with fluorescent sources and light-emitting diodes have shown that it is generally not well suited to predict the more subjective aspects of colour quality such as visual appreciation or naturalness, because the CIE reference illuminant need not be the most optimal source (4, 8). In light of this failure of the CIE Ra index several alternative metric have been proposed over the past years. Although most of them are based on some sort of comparison with a reference illuminant, an alternative approach would be to directly reference to the ideal chromaticities of familiar objects. Such an approach should also correspond more closely to the way people judge the colour quality of light sources in everyday life as nobody walks around with a reference source to be able to judge the colour quality of the lighting in a room. Colours of object often look “wrong” or “distorted” when they are not what we expect or want them to be (9, 10). Based on the straightforward assumption that the colour quality of a light source increases when object colours are rendered more closely to what is expected, a memory colour quality metric was developed that is able to assess the colour quality of a white light source in terms visual appreciation: **the MCRI or memory colour rendition index, Rm (MCRI)** (11, 12). The memory colour rendition index has been validated in two recent scientific publications (12, 13) using observer ratings from several published visual experiments (3-5, 7, 14-18). The memory colour rendition index Rm was found to correlate highly ($r = 0.88$, $p < 0.0001$) with the visual appreciation of white light sources. In addition, the MCRI was found to be significantly better at it than several other published colour rendition and colour quality metrics. The results are illustrated in Figure 1.

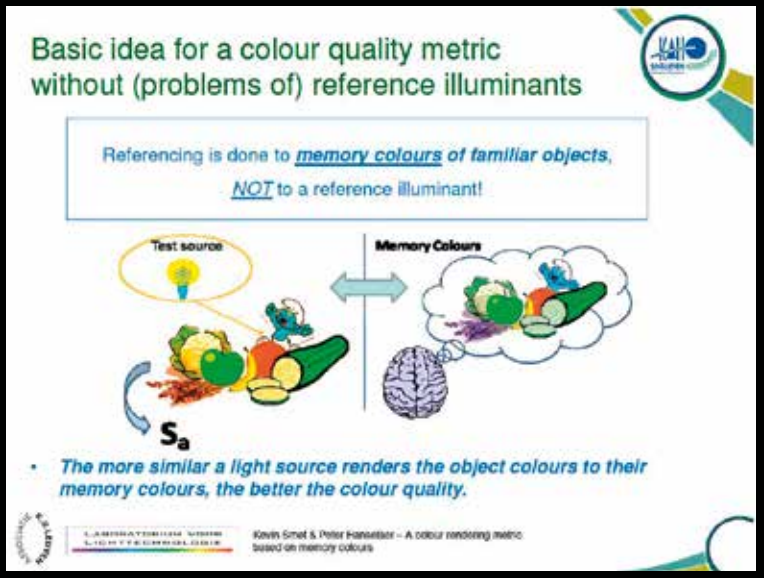


WHAT IS COLOUR?

The “unexpected Martini philosophy”
for lighting designers

HD RETINA LED® is the first light source COB (chip on board) developed and patented by a light fixtures manufacturer: Martini
MAIN FEATURES:
It’s a pleasant light rendering the true colors of the objects. Through an innovative technology, the light source gives back the chromatic information which are inside the human memory (Figure 1).
It is a light source which enhances the colors collected by the human mind through different experiences. For this reason it is a light source suitable for several applications, in particular for all those situations where it is needed to light up, all together, several objects having different colors, but getting a perfect and balanced colors saturation.
It comes from a revolutionary patented light spectrum which saturates – at the same time and with a perfect balance – either warm and cold colors. Colors are not made with reference to the “old” metrics related to fluorescent and halogen light source, but they are made in such a way to reproduce – as much accurately as possible – the human eye memory and perception, based on familiar objects (Figure 2).
It gets a score based on the MCRI Index (memory colour rendering index), a particular index considering not only the colors saturation, but also colors memory perceptions made by the human mind.
The perfect saturation either of warm and cold colors is surrounded by a “true white” – keeping its natural and clear identity, which gives and enhances such an “unexpected and pleasant” visual comfort.





Following the success of HD Retina Led after last April's launch, the technology has been tested and finally used in a number of different sectors, like the world of "Art and Museums". Art galleries need to meet different criteria when selecting lighting fixtures, above all colour rendering - in terms of the faithful reproduction of the "real" colours of the artworks rather than in terms of CRI, CQS or other traditional metrics. In such a context HD Retina Led has shown amazing results - which Giorgio Martini (the inventor) himself did not expect. HD Retina Led meets, as well, the need for a user-friendly management system which does not require continuous adjustment and gets an optimal balance between saturation and colour fidelity and the paintings shown at Lighting + Building 2014 are a real proof of that.

HD Retina led evolution

Usually, it is said the average human eye cannot distinguish colour differences falling in a colour space narrower than a 2 or 3-step MacAdam ellipse, but this is true only when settings and objects are individually watched, one by one. In reality, human eye can even see differences smaller than 1-step Mac-Adam whenever we can compare different settings (scenes) all together and, actually, each situation will give us different sensations and a different interaction with our mind. Furthermore, it is important to draw the attention to another prospective: while the market is now giving more attention to the colours rendering, we have not to forget the visual comfort is deeply affected by the general light generated in the “achromatic ambience” by the “white light”.

This means the “human sensations”, which become “purchasing preferences” are strongly influenced either by colours and the “white colour”: “achromatic” itself as we said before, “white colour” can get a different hue according to different light sources.

Giorgio Martini and his team made an amazing and long study about the “white colour” and they managed to prove in a very evident way the quality of a light source cannot be only tested in terms of colours saturation and fidelity, but it is directly related how the same (light source) can get the white colour achromatic and comfortable at the same time, generating what we call “sensory white”.

Actually, whenever we have different settings with colours all saturated at the same level, our mind can definitely distinguish white light deviations smaller than 1 step MacAdam ellipse. These deviations will match with specific preferences which are the result of cultural differences, but – moreover – of different sensations given by the material the white objects are made of.

HD Retina Led evolution – “make your white” – is the result of this research path and it joins HD Retina Led to a new device that gives the possibility of making a personal “sensory white”, getting a very important role in the materials ethic and in all what it means, today, from a business point of view.

“make your white”

HD Retina Led products

MILO L HD

design: Lapo Grassellini

Power	Φ [lm]	Beam	Code
25W	1600	16°	**33210.__HD**
25W	1600	23°	**33211.__HD**
25W	1600	36°	**33212.__HD**
25W	1600	64°	**33213.__HD**
25W	1600	74°	**33290.__HD**
50W	3300	17°	**33237.__HD**
50W	3300	27°	**33238.__HD**
50W	3300	39°	**33239.__HD**

IP40

Power	Φ [lm]	Beam	Code
25W	1600	16°	**33218.__HD**
25W	1600	23°	**33219.__HD**
25W	1600	36°	**33220.__HD**
25W	1600	64°	**33221.__HD**
25W	1600	74°	**33292.__HD**
50W	3300	17°	**33272.__HD**
50W	3300	27°	**33273.__HD**
50W	3300	39°	**33274.__HD**

IP40 DALI

Power	Φ [lm]	Beam	Code
25W	1600	16°	**53990.__HD**
25W	1600	23°	**53991.__HD**
25W	1600	36°	**53992.__HD**
25W	1600	64°	**53993.__HD**
25W	1600	74°	**54025.__HD**
50W	3300	17°	**54009.__HD**
50W	3300	27°	**54010.__HD**
50W	3300	39°	**54011.__HD**

IP40

Power	Φ [lm]	Beam	Code
25W	1600	16°	**53998.__HD**
25W	1600	23°	**53999.__HD**
25W	1600	36°	**54000.__HD**
25W	1600	64°	**54001.__HD**
25W	1600	74°	**54027.__HD**
50W	3300	17°	**54018.__HD**
50W	3300	27°	**54019.__HD**
50W	3300	39°	**54020.__HD**

IP40

Power	Φ [lm]	Beam	Code
25W	1600	16°	**33226.__HD**
25W	1600	23°	**33227.__HD**
25W	1600	36°	**33228.__HD**
25W	1600	64°	**33229.__HD**
25W	1600	74°	**33294.__HD**
50W	3300	17°	**33249.__HD**
50W	3300	27°	**33250.__HD**
50W	3300	39°	**33251.__HD**

IP40

Trim

Power	Φ [lm]	Beam	Code
25W	1600	16°	**36386.__HD**
25W	1600	23°	**36387.__HD**
25W	1600	36°	**36388.__HD**
25W	1600	64°	**36389.__HD**
25W	1600	74°	**36390.__HD**
50W	3300	17°	**36400.__HD**
50W	3300	27°	**36401.__HD**
50W	3300	39°	**36402.__HD**

IP40

MARTINO L HD

design: Lapo Grassellini

Power	Φ [lm]	Beam	Code
25W	1600	16°	**33820.__HD**
25W	1600	23°	**33821.__HD**
25W	1600	36°	**33822.__HD**
25W	1600	64°	**33823.__HD**
25W	1600	74°	**33296.__HD**
50W	3300	17°	**33830.__HD**
50W	3300	27°	**33831.__HD**
50W	3300	39°	**33832.__HD**

IP40

track pendant

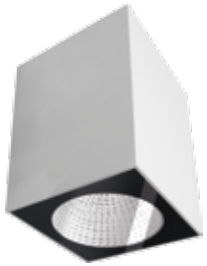
Power	Φ [lm]	Beam	Code
25W	1600	16°	**53850.__HD**
25W	1600	23°	**53851.__HD**
25W	1600	36°	**53852.__HD**
25W	1600	64°	**53853.__HD**
25W	1600	74°	**54029.__HD**
50W	3300	17°	**53863.__HD**
50W	3300	27°	**53864.__HD**
50W	3300	39°	**53865.__HD**

IP40

pendant with ceiling rose

Power	Φ [lm]	Beam	Code
25W	1600	16°	**53820.__HD**
25W	1600	23°	**53821.__HD**
25W	1600	36°	**53822.__HD**
25W	1600	64°	**53823.__HD**
25W	1600	74°	**54031.__HD**
50W	3300	17°	**53830.__HD**
50W	3300	27°	**53831.__HD**
50W	3300	39°	**53832.__HD**

IP40



Power	Φ [lm]	Beam	Code
25W	1600	16°	**33255.__HD**
25W	1600	23°	**33256.__HD**
25W	1600	36°	**33257.__HD**
25W	1600	64°	**33258.__HD**
25W	1600	74°	**33298.__HD**
50W	3300	17°	**33266.__HD**
50W	3300	27°	**33267.__HD**
50W	3300	39°	**33268.__HD**

IP40

VIRGOLA HD

design: Lapo Grassellini

11 27 82

single adjustable

Power	Φ [lm]	Beam	Code
25W	1600	16°	**31765.__HD**
25W	1600	23°	**31766.__HD**
25W	1600	36°	**31767.__HD**
25W	1600	64°	**31768.__HD**
25W	1600	74°	**31769.__HD**

IP20

single gyroscopic

Power	Φ [lm]	Beam	Code
25W	1600	16°	**31775.__HD**
25W	1600	23°	**31776.__HD**
25W	1600	36°	**31777.__HD**
25W	1600	64°	**31778.__HD**
25W	1600	74°	**31779.__HD**

IP20

double gyroscopic

Power	Φ [lm]	Beam	Code
2x25W	3200	16°	**31785.__HD**
2x25W	3200	23°	**31786.__HD**
2x25W	3200	36°	**31787.__HD**
2x25W	3200	64°	**31788.__HD**
2x25W	3200	74°	**31789.__HD**

IP20

HOOP HD

design: Lapo Grassellini

11

standard

Power	Φ [lm]	Beam	Code
25W	1600	78°	**33322.11HD**
50W	3300	77°	**33334.11HD**

IP20/IP44

dimmable 1-10V

Power	Φ [lm]	Beam	Code
25W	1600	78°	**33324.11HD**
50W	3300	77°	**33336.11HD**

IP20/IP44

emergency

Power	Φ [lm]	Beam	Code
25W	1600	78°	**33328.11HD**
50W	3300	77°	**33340.11HD**

IP20/IP44

dimmable DALI

Power	Φ [lm]	Beam	Code
25W	1600	78°	**33326.11HD**
50W	3300	77°	**33338.11HD**

IP20/IP44 DALI

ARKEDO HD

design: Lapo Grassellini

11

fixed 170

Power	Φ [lm]	Beam	Code
25W	1600	16°	**33090.11HD**
25W	1600	23°	**33091.11HD**
25W	1600	38°	**33092.11HD**

IP20/IP40

adjustable 170

Power	Φ [lm]	Beam	Code
25W	1600	16°	**33098.11HD**
25W	1600	23°	**33099.11HD**
25W	1600	40°	**33100.11HD**

IP20/IP40

wall washer 170

Power	Φ [lm]	Beam	Code
25W	1600	wall washer	**33106.11HD**

IP20/IP40

ACCESSORY

rimmed housing
H=9,5/12,5/15,5mm
cod. **93528.00**

fixed 210

Power	Φ [lm]	Beam	Code
50W	3300	17°	**33114.11HD**
50W	3300	28°	**33115.11HD**
50W	3300	39°	**33116.11HD**

IP20/IP40

adjustable 210

Power	Φ [lm]	Beam	Code
50W	3300	17°	**33126.11HD**
50W	3300	28°	**33127.11HD**
50W	3300	35°	**33128.11HD**

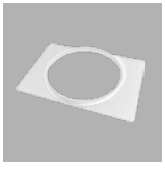
IP20/IP40

wall washer 210

Power	Φ [lm]	Beam	Code
50W	3300	wall washer	**33135.11HD**

IP20/IP40

ACCESSORY



rimmed housing
H=9,5/12,5/15,5mm
code **93529.00**

control gear available as accessory, see page 23

ESSENTIAL HD

design: Lapo Grassellini

11 82 86

Power	Φ [lm]	Beam	Code
25W	1600	16°	**30212.__HD**
25W	1600	23°	**30213.__HD**
25W	1600	36°	**30214.__HD**
25W	1600	64°	**30215.__HD**
25W	1600	74°	**33304.__HD**

IP20/IP40

backward recessed

Power	Φ [lm]	Beam	Code
25W	1600	15°	**33077.__HD**
25W	1600	23°	**33078.__HD**
25W	1600	36°	**33079.__HD**

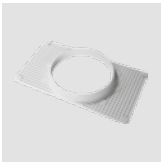
IP20/IP40

trimless recessed

Power	Φ [lm]	Beam	Code
25W	1600	15°	**33316.__HD**
25W	1600	23°	**33317.__HD**
25W	1600	36°	**33318.__HD**

IP20/IP40

ACCESSORY



rimmed housing
H=9,5/12,5/15,5mm
code **93526.00**

control gear available as accessory, see page 23

PERLA HD

design: Giampiero Peia

Power	Φ [lm]	Beam	Code
25W	1600	16°	**36310.__HD**
25W	1600	26°	**36311.__HD**
25W	1600	43°	**36312.__HD**
Compulsory decorative ring			**9344_.__**

IP20

Power	Φ [lm]	Beam	Code
25W	1600	16°	**36316.__HD**
25W	1600	26°	**36317.__HD**
25W	1600	43°	**36318.__HD**

IP20

ACCESSORIES

decorative round ring for Perla 160 (Ø 200)
code **93440.11**
code **93440.27**

decorative square ring for Perla 160
(205x205 mm)
code **93441.11**
code **93441.27**

control gear available as accessory, see page 23

Power	Φ [lm]	Beam	Code
25W	1600	16°	**36322.__HD**
25W	1600	26°	**36323.__HD**
25W	1600	43°	**36324.__HD**

IP20

ACCESSORY

3 mm spacers kit for round flush-fitted Perla 160
(for plasterboard 9 mm thick)
code **92203.00**

Power	Φ [lm]	Beam	Code
25W	1600	16°	**36328.__HD**
25W	1600	26°	**36329.__HD**
25W	1600	43°	**36330.__HD**

IP20

ACCESSORY

3 mm spacers kit
for square flush-fitted Perla 160
(for plasterboard 9 mm thick)
code **92204.00**

control gear available as accessory, see page 23

BEX HD

design: Lapo Grassellini

11 15 27 82

Power	Φ [lm]	Beam	Code
25W	1600	16°	**30386.__HD**
25W	1600	23°	**30387.__HD**
25W	1600	36°	**30388.__HD**
25W	1600	64°	**30325.__HD**
25W	1600	74°	**33308.__HD**

IP20

Power	Φ [lm]	Beam	Code
50W	3300	17°	**33030.__HD**
50W	3300	27°	**33031.__HD**
50W	3300	39°	**33032.__HD**

IP20

control gear available as accessory, see page 23

ACCESSORIES

for 25W fixtures

electronic ballast (suitable for controlling 1 LED)
31x179xH31,5 mm
code **30398.00**

dimmable electronic ballast 1-10V
(suitable for controlling 1 LED)
79x124xH23 mm
code **38948.00**

dimmable electronic ballast DALI
(suitable for controlling 1 LED)
125x90xH22 mm
code **30399.00**

for 50W fixtures

electronic ballast 1-10V
(suitable for controlling 1 LED)
100x150xH35 mm
code **38959.00**

dimmable electronic ballast 1-10V
(suitable for controlling 1 LED)
156x83xH36 mm
code **30587.00**

dimmable electronic DALI ballast
(suitable for controlling 1 LED)
156x83xH36 mm
code **30588.00**


MARTINI
LIGHT

New products 2014

RUSH

design: Matteo Nunziati

The new linear system with a minimalistic design is made by an aluminium profile housing two types of modules - spotlight and projectors - which can be assembled according to the application needs. Available versions: ceiling mounted, recessed and pendant.

6 Leds module

Power	Color Temperature	Beam	L [mm]
9W	NW/WW	26°	300
9W	NW/WW	32°	300
9W	NW/WW	47°	300

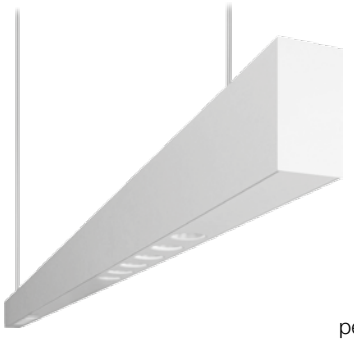
IP20

projector module

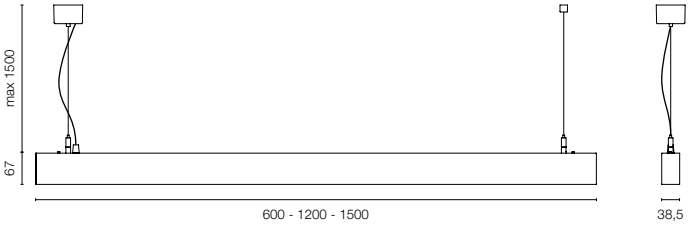
Power	Color Temperature	Beam	L [mm]
8W	NW/WW	26°	150
8W	NW/WW	32°	150
8W	NW/WW	47°	150

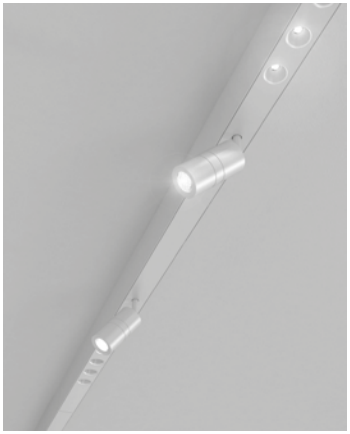
IP20

11 27 82

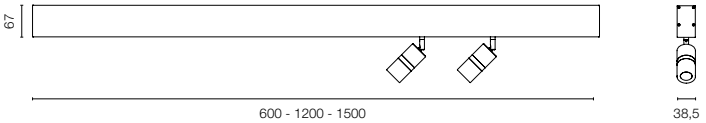


pendant

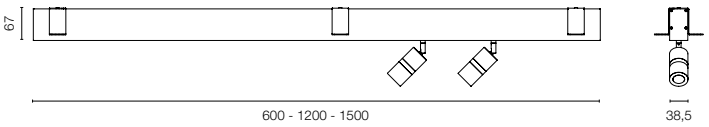




ceiling



recessed



CLOUD

design: Lapo Grassellini

11 27 82

A new elegant suspended light - ideal either for work station or open space. Cloud combines design and visual comfort with the right quantity of light.

direct/indirect emission

Power	Color Temperature	CRI	Beam
54W	NW/WW	>80	wide

IP40

direct emission

Power	Color Temperature	CRI	Beam
27W	NW/WW	>80	wide

IP40

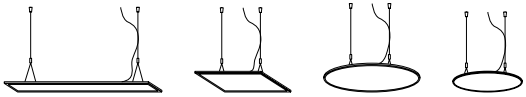
FLAT

design: Martini Staff

11 27 82

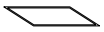
Ultra slim Led panels with a very efficient lumen output and a no glair diffuser. Available versions: ceiling mounted, recessed and pendant.

pendant



ceiling mounted

recessed



L [mm]	Power	Color Temperature	CRI	Beam
1200x165	45W	NW/WW	>80	wide
595x595	50W	NW/WW	>80	wide
Ø 850	70W	NW/WW	>80	wide
Ø 580	35W	NW/WW	>80	wide

IP40

TUBE

design: Archea

10 12 14 16 25 34

A colourful new range for the Tube Led range: made of anodized aluminium, with a new mechanism and now in two different sizes, the new elements swing on the air as bamboo drawing any kind of irregular pattern on the ceiling.

adjustable Ø 35

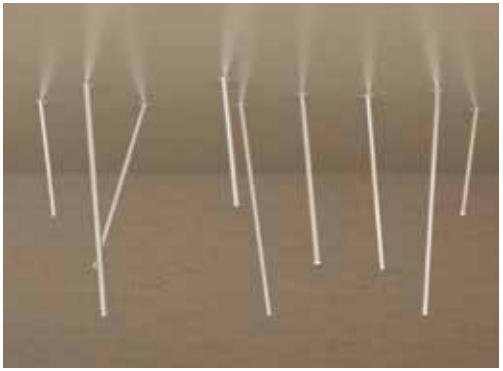
Power	Colour temperature [K]	CRI	Beam	L [mm]
6W	NW/WW	>80	32°	800
6W	NW/WW	>80	32°	1200
6W	NW/WW	>80	32°	1500

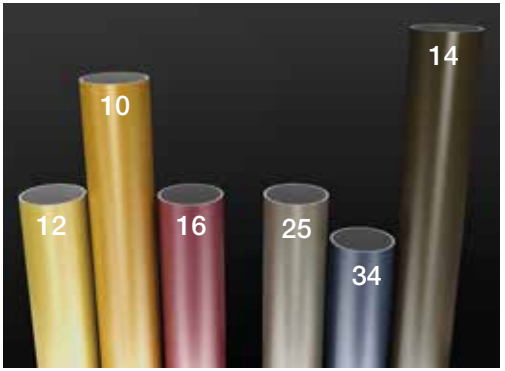
IP20

adjustable Ø 52

Power	Colour temperature [K]	CRI	Beam	L [mm]
10W	NW/WW	>80	32°	800
10W	NW/WW	>80	32°	1200
10W	NW/WW	>80	32°	1500

IP20





SNOB

design: Martini Staff

11 27 82

A thin, elegant projector with a ceiling adjustable steam which can be customized for different applications.

Power	Φ [lm]	Color Temperature	CRI	beam	L [mm]
6W	450	NW/WW	>80	32°	200
6W	315	NW/WW	97	32°	200
6W	450	NW/WW	>80	32°	400
6W	315	NW/WW	97	32°	400
6W	450	NW/WW	>80	32°	800
6W	315	NW/WW	97	32°	800

IP40 control gear available as accessory

Power	Φ [lm]	Color Temperature	CRI	beam	L [mm]
6W	450	NW/WW	>80	58°	200
6W	315	NW/WW	97	58°	200
6W	450	NW/WW	>80	58°	400
6W	315	NW/WW	97	58°	400
6W	450	NW/WW	>80	58°	800
6W	315	NW/WW	97	58°	800

IP40 control gear available as accessory

TRAZ

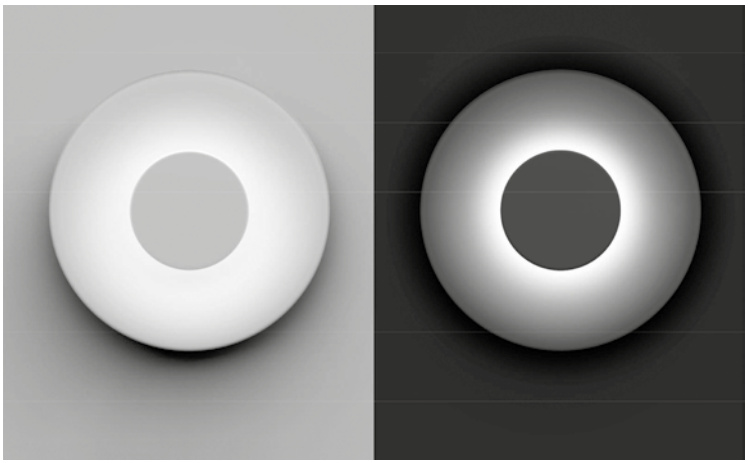
design: Luca Trazzi

Light and shadow floating on the wall are the main characteristic of Traz. Made of a gypsum body hiding the Led light source, this fixture gives the possibility to create very soft and unique atmosphere.

applique Ø 350

Power	Colour temperature [K]	CRI	Ø
10W	NW/WW	>80	350

IP20



applique Ø 450

Power	Colour temperature [K]	CRI	Ø
10W	NW/WW	>80	450

IP20

square recessed

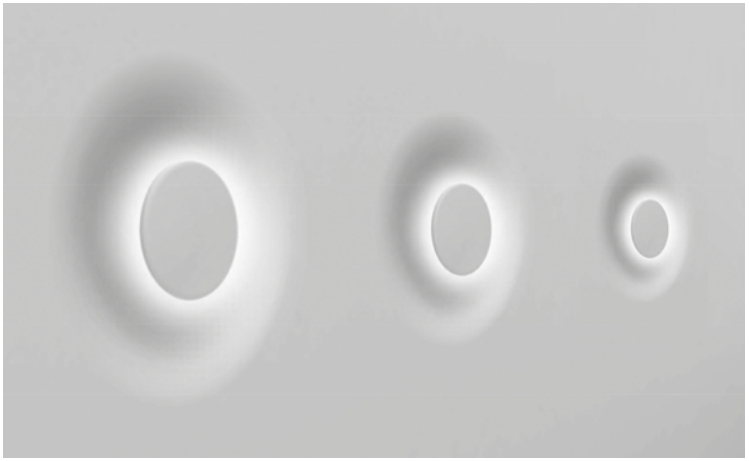
Power	Colour temperature [K]	CRI	Ø
13W	NW/WW	>80	215

IP20

round recessed

Power	Colour temperature [K]	CRI	Ø
13W	NW/WW	>80	215

IP20



OBLÒ

design: Lapo Grassellini

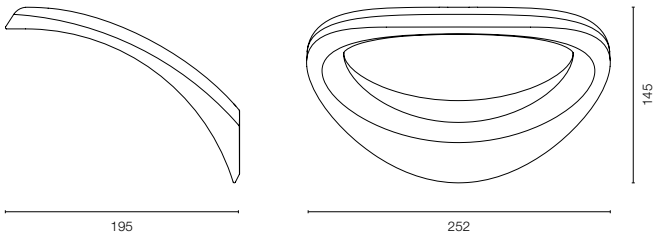
11 82

Concave and convex shapes merge into organic forms of Oblò sconce and play with the juxtaposition of LED and diffuse light. Oblò is a sinuous and luminous substance at designers' disposal

indirect emission

Power	Color Temperature	CRI	Beam
26W	NW/WW	>80	wide

IP40



SIMPLE

design: Lapo Grassellini

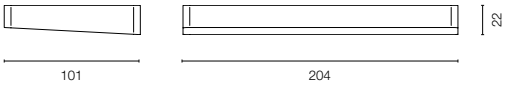
11 82

A basic geometric design to fade on the wall with a soft Led light source.

indirect emission

Power	Color Temperature	CRI	Beam
26W	NW/WW	>80	wide

IP40



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