



OREE

LightCell™ *PLUS*

Ivory white

Product guide

LightCell™ PLUS

Ivory white

The Oree White LightCell™ Ivory White is an ultra-thin and highly efficient planar LED device providing a ready to use light source for planar illumination.

Featuring high energy efficiency, ultra-thin design and light uniformity, Oree's innovative technology converts LED "point light sources" to a planar and uniform illuminating surface.

Discrete LED chips are embedded into a flat light guide using a patented technology, creating a thin light source with high energy efficiency and unparalleled uniformity.

An innovative architecture keeps the phosphor layer away from the LED chips, maintaining the phosphor at lower temperatures resulting in higher conversion efficiency and higher reliability.

- + Highly efficient thin Planar LED light source
- + CCT: 3000k
- + CRI: 90-95
- + Dimmable
- + Size: Solo / Duo / Quad

High energy efficiency, minimum thickness and high CRI, makes the Oree White LightCell™ the light source of choice for planar illumination applications.



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LightCell™ PLUS Data sheet,
Last updated 24 Jan 2013

LightCell™ PLUS Ivory White

An innovative architecture keeps the phosphor layer away from the LED chips, maintaining the phosphor at lower temperatures resulting in higher conversion efficiency and higher reliability.

Flat illuminating areas of any size can be created by combining several LightCells together as required to fit a specific application.



Features

- Highly efficient thin Planar LED light source
- High power, high lumens output
- CCT: 3000K
- CRI: 90-95
- Dimmable
- Size: Solo / Duo / Quad
- 50,000 hrs lifetime

Benefits

- Multiple temperature colors
- Add High Power Lumen output 5w
- Ready to use planar LED light source
- Efficient and uniform surface lighting
- Thin and lightweight fixtures
- Easy mounting/installation
- Glare and hot spots free
- Wide and even light distribution

Applications

- General illumination
- Task Lighting
- Orientation
- Display

Electro-optical characteristics

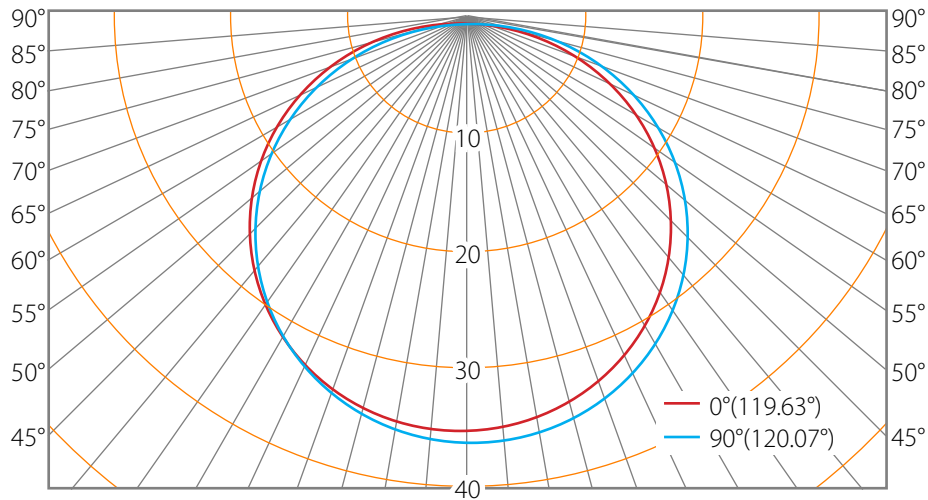
Values measured at 25°C ambient temperature using heat sink for proper heat dissipation

| | Input power | Parameter | Value | Unit |
|------|-------------|-------------------|---------|------|
| Solo | 5W | Luminous flux (1) | 315 | Lm |
| | | Efficiency (1) | 63 | Lm/W |
| | | CRI | 90 - 95 | |
| | | CCT (2) | 3000 | K |
| DUO | 10W | Luminous flux (1) | 630 | Lm |
| | | Efficiency (1) | 63 | Lm/W |
| | | CRI | 90 - 95 | |
| | | CCT (2) | 3000 | K |
| QUAD | 20W | Luminous flux (1) | 1260 | Lm |
| | | Efficiency (1) | 63 | Lm/W |
| | | CRI | 90 - 95 | |
| | | CCT (2) | 3000 | K |

Notes:

1. Tolerance of electro-optical value is $\pm 10\%$.
2. The CCT falls within the 4-step chromaticity quadrangle as defined by ANSI.
3. Electro-optical values were measured using a constant current, in continuous operation mode.
4. The LightCell requires a Current controlled power supply.

Photometry Information



Absolute maximum ratings

| Parameter | | Symbol | Conditions | Max Rating | Unit |
|---------------------------|--------------------------|----------|---|------------|------------------|
| Blue Channel | Peak forward Current (2) | I_f | ambient temperature $T_a = 25^\circ\text{C}$ | 300 | mA |
| Red Channel | Peak forward Current (3) | I_f | | 300 | mA |
| Operating temperature (1) | Case temperature | T_c | Measured on MCPCB (Below LED chips) | ≤ 63 | $^\circ\text{C}$ |
| Storage temperature | Storage | T_{st} | | ≤ 50 | $^\circ\text{C}$ |
| | Transportation | | | ≤ 65 | $^\circ\text{C}$ |

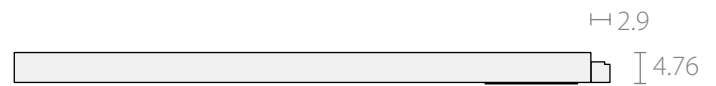
Note :

1. The maximum operating temperature should not be exceeded, warranty is viable only once recommended conditions are kept.
2. LightCell Blue LED Channel typical compliance forward voltage is 16.6v
3. LightCell Red LED Channel typical compliance forward voltage is 7v

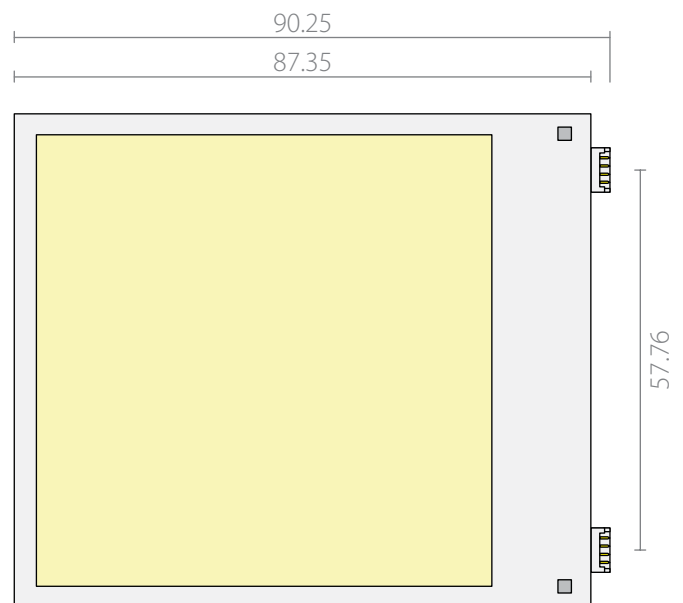
LightCell™ Solo Dimensions

Values are in millimetres

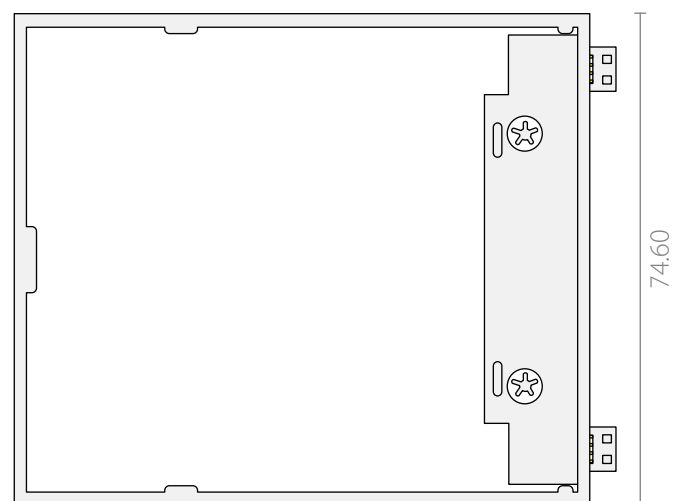
Side view



Top view



Back view

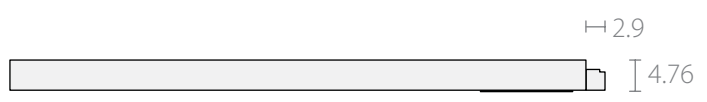


Note - The phosphor layer is attached to the LightCell on one side this should be considered while designing an application.

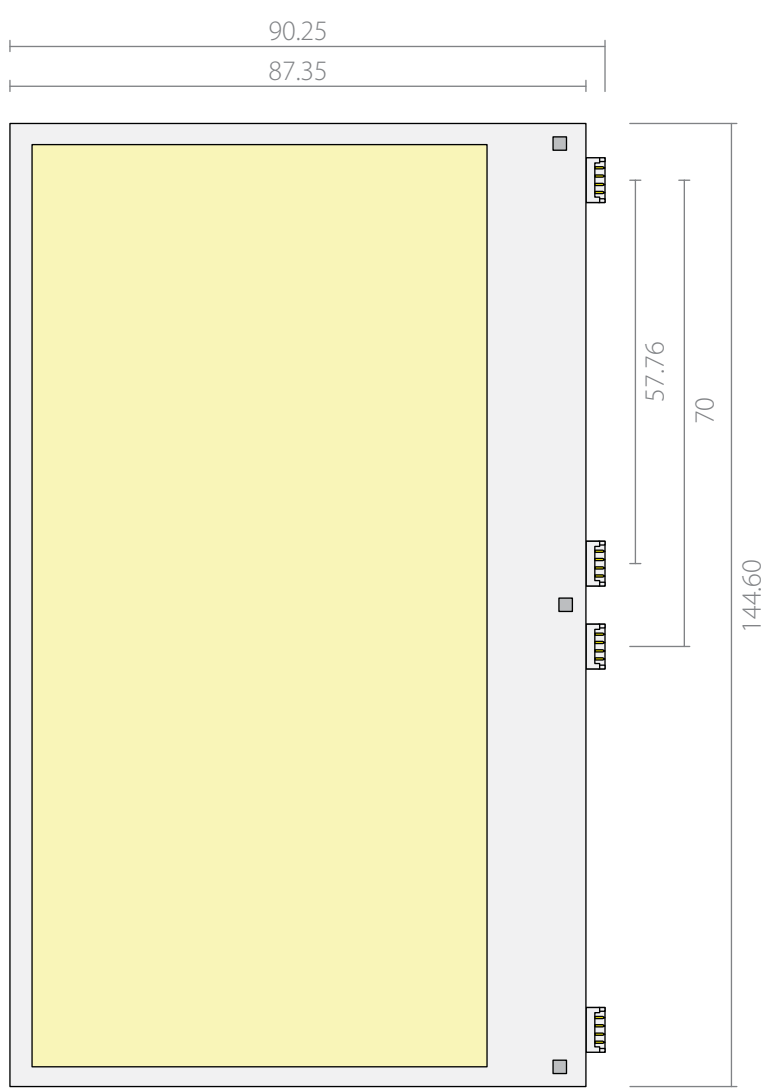
LightCell™ Duo Dimensions

Values are in millimetres

Side view



Top view



Note - The phosphor layer is attached to the LightCell on one side this should be considered while designing an application.

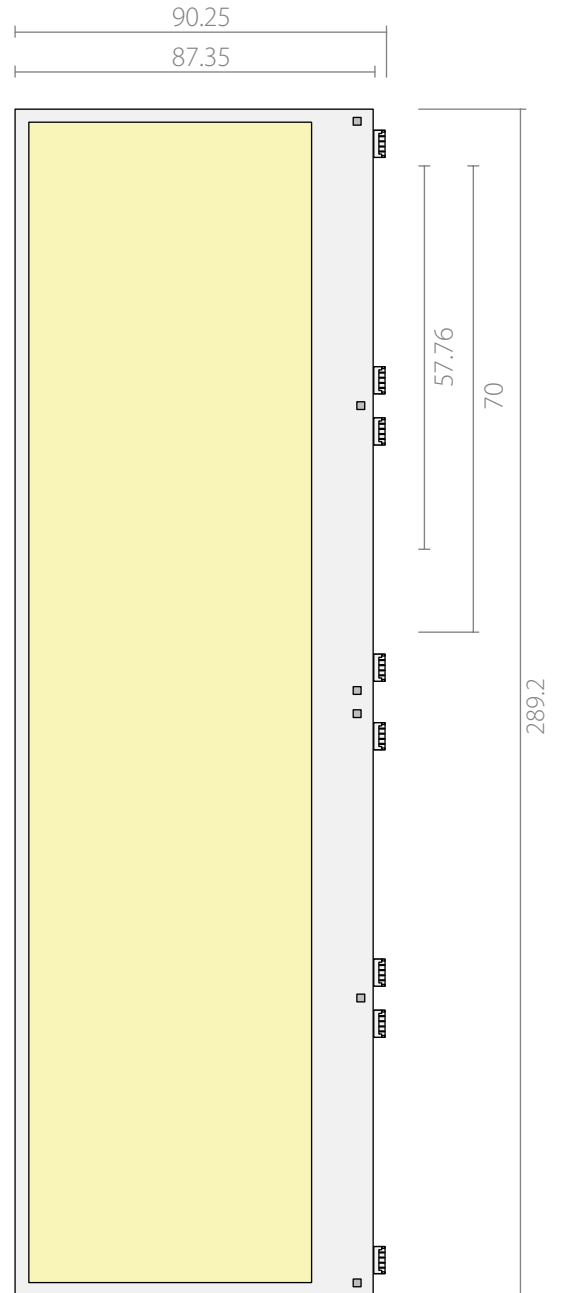
LightCell™ QUAD Dimensions

Values are in millimetres

Side view



Top view



Note - The phosphor layer is attached to the LightCell on one side this should be considered while designing an application.

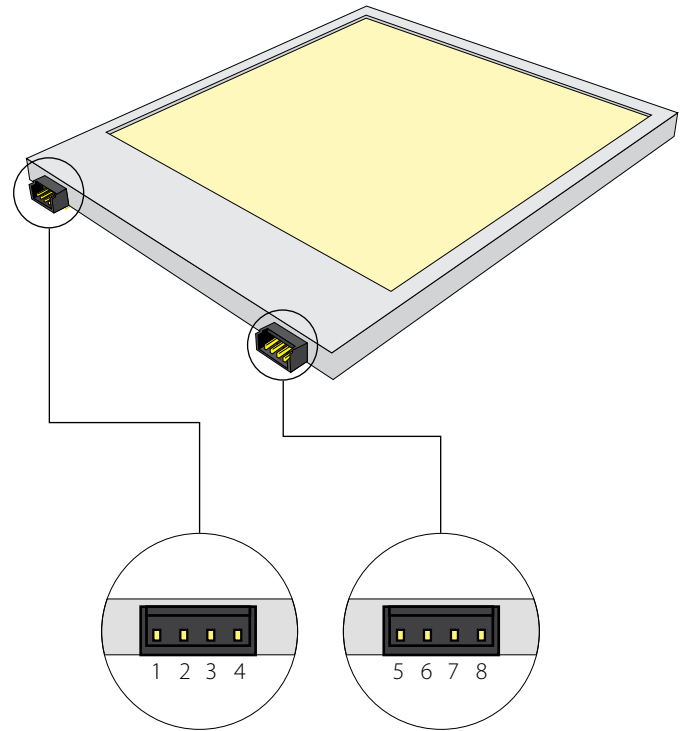
Electrical interface

The electrical connection to the LightCell is a two 4-pin header straight type connector (1.27x1.27mm).

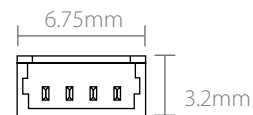
The LightCell includes 2 types of internal LED chips: Blue and Red; each type is serially connected inside the LightCell to provide a two-channel device.

Each channel can be controlled separately.

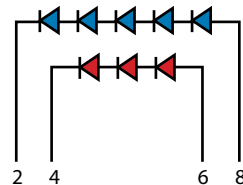
The following diagram and table describe the pin-out of the electrical interface:



| | |
|--------------|--------|
| Pin Size | 0.4mm |
| Pin Pitch | 1.27mm |
| Header width | 5.08mm |



| Pin | Description |
|------|-------------------------|
| No.1 | Not Connected |
| No.2 | Blue LED string Cathode |
| No.3 | Not Connected |
| No.4 | Red LED String Cathode |
| No.5 | Not connected |
| No.6 | Red LED string Anode |
| No.7 | Not connected |
| No.8 | Blue LED string Anode |



Electrical diagram, Pin assignment

Handling procedures

1. The LightCell is an optical component therefore needs to be handled with awareness to contamination and mechanical damage.
2. Refrain from touching the LightCell illuminating surface.
3. Hold the LightCell from the thickest side of the facets edges.
4. While mounting the LightCell minimum forces should be applied

Contact

Oree-Inc Israel

Beit Or, 30 Tuval St.
Ramat Gan, 52522
Israel

www.oree-inc.com
sales@oree-inc.com
T +972 3 610 2000 #108
F +972 3 612 0376