OREE

LightCell™ *PLUS*
PRODUCT GUIDE

LightCell™ *PLUS*

The Oree White LightCell™ 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: 2700k / 3000k / 4000k
+ CRI: 90-95
+ Dimmable
+ Illuminating area: 70mm x 70mm

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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For further information Please visit www.oree-inc.com

Table of content

Overview

Specifications

User Manual

LightCell™ PLUS Data sheet,
Last updated 24 Jan 2013

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Oree White LightCell™

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: 2700K / 3000K / 4000K
- CRI: 90-95
- Dimmable
- Illuminating area: 70 x 70mm
- 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

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Electro-optical characteristics

Values measured at 25^0 C ambient temperature using heat sink for proper heat dissipation

	Input power	Parameter	Value	Unit
LightCell™ Solo	1W	Luminous flux (1)	95	Lm
		Efficiency (1)	95	Lm/W
		CRI	90 - 95	
		CCT (2)	2700, 3000, 4000	K
	5W	Luminous flux (1)	350	Lm
		Efficiency (1)	70	Lm/W
		CRI	90 - 95	
		CCT (2)	2700, 3000, 4000	K
LightCell™ DUO	2W	Luminous flux (1)	190	Lm
		Efficiency (1)	95	Lm/W
		CRI	90 - 95	
		CCT (2)	2700, 3000, 4000	K
	10W	Luminous flux (1)	700	Lm
		Efficiency (1)	70	Lm/W
		CRI	90 - 95	
		CCT (2)	2700, 3000, 4000	K
LightCell™ QUAD	4W	Luminous flux (1)	380	Lm
		Efficiency (1)	95	Lm/W
		CRI	90 - 95	
		CCT (2)	2700, 3000, 4000	K
	20W	Luminous flux (1)	1400	Lm
		Efficiency (1)	70	Lm/W
		CRI	90 - 95	
		CCT (2)	2700, 3000, 4000	K

Notes:

1. Tolerance of electro-optical value is ± 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.

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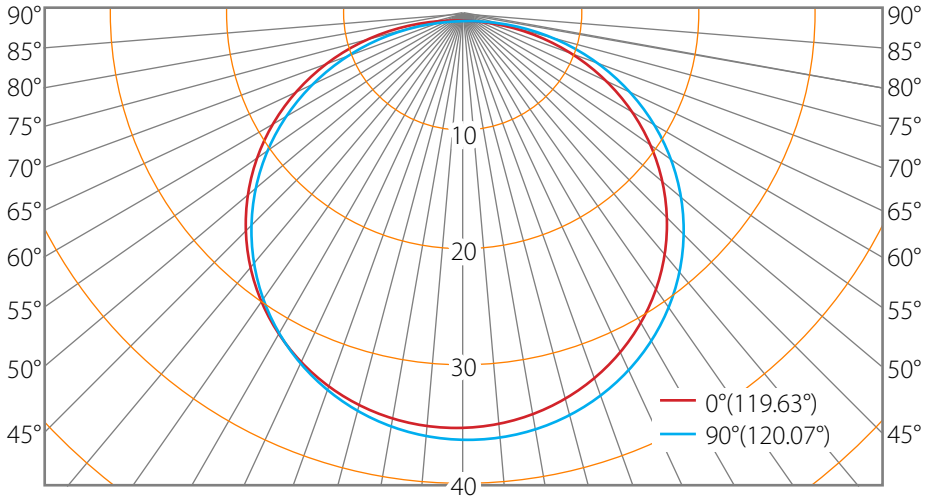
Photometry Information



Absolute maximum ratings

Parameter		Symbol	Conditions	Max Rating	Unit
Blue Channel	Peak forward Current (2)	If	ambient temperature Ta =25°C	300	mA
Red Channel	Peak forward Current (3)	If		300	mA
Operating temperature (1)	Case temperature	*Tc*	Measured on MCPCB (Below LED chips)	≤63	°C
Storage temperature	Storage	*Tst*		≤50	°C
	Transportation			≤65	°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

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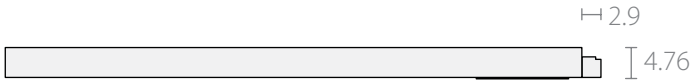
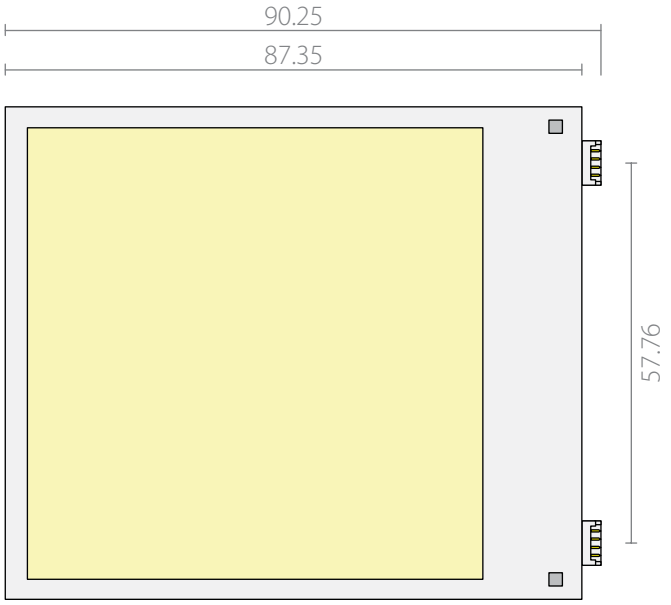
LightCell™ Solo Dimensions

Values are in millimetres

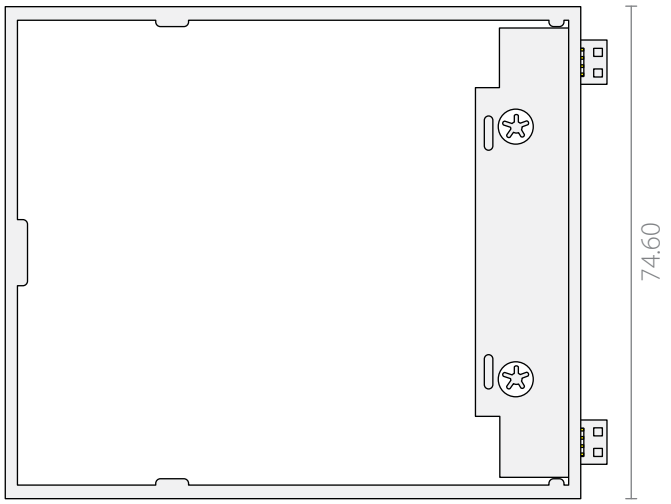
Side view



Top view



Back view



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

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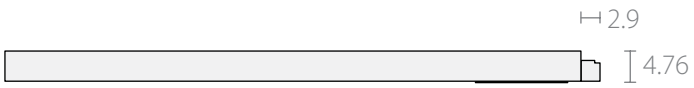
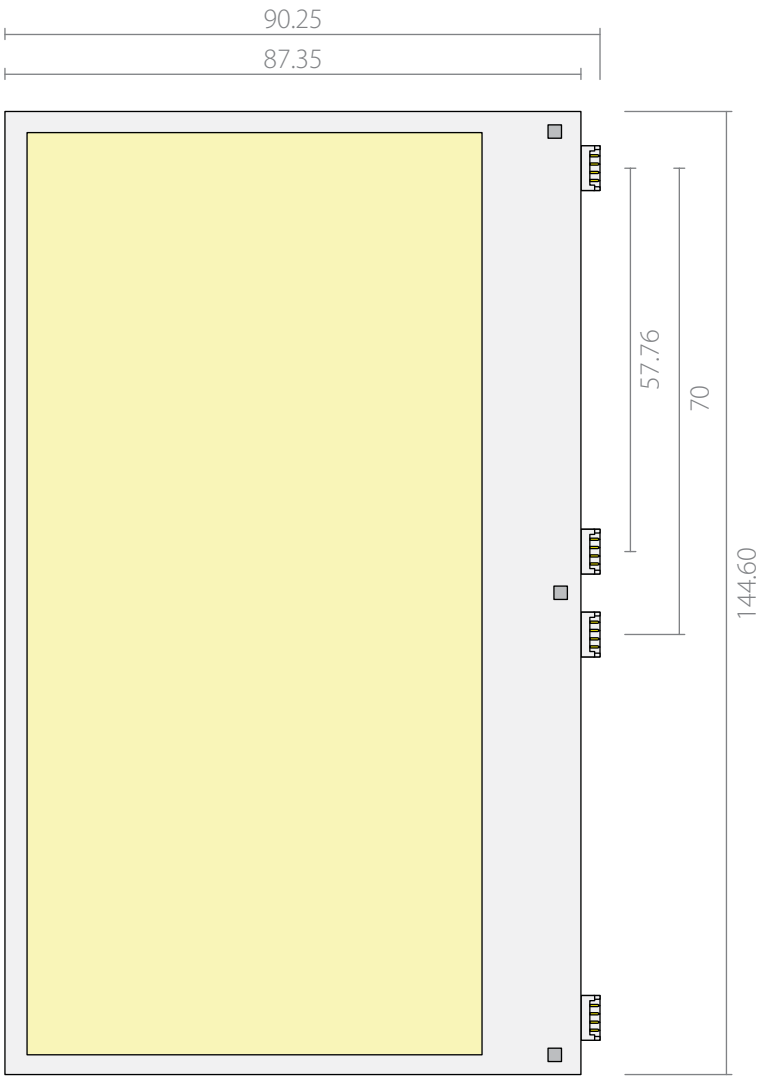
LightCell™ Duo Dimensions

Values are in millimetres

Side view



Top view



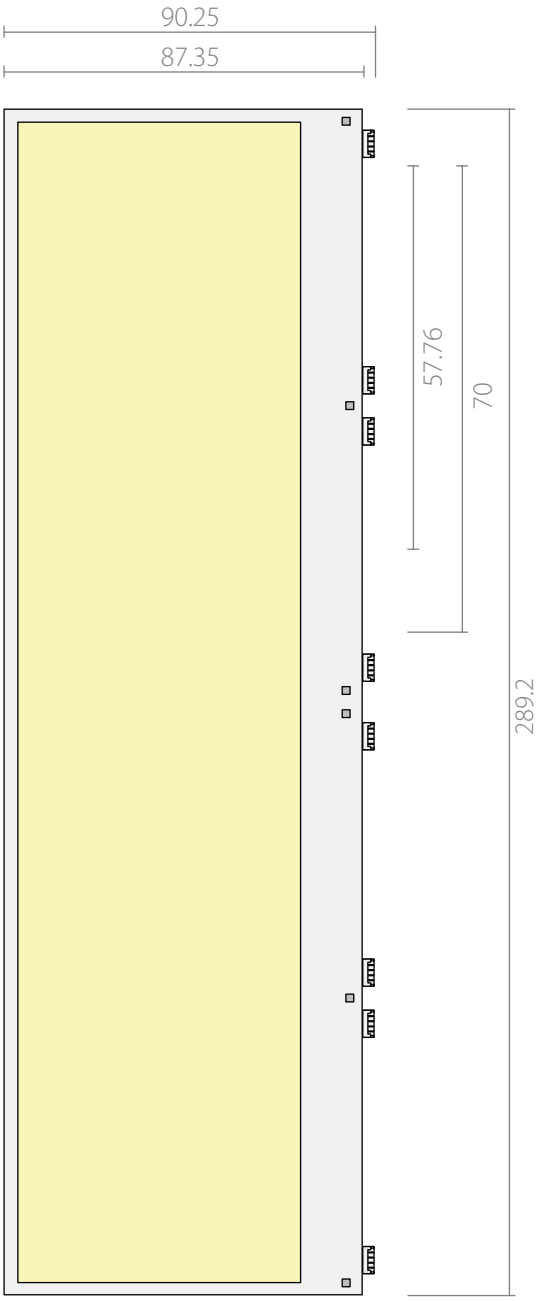
Note - The phosphor layer is attached to the LightCell on one side this should be considered while designing an application.

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.

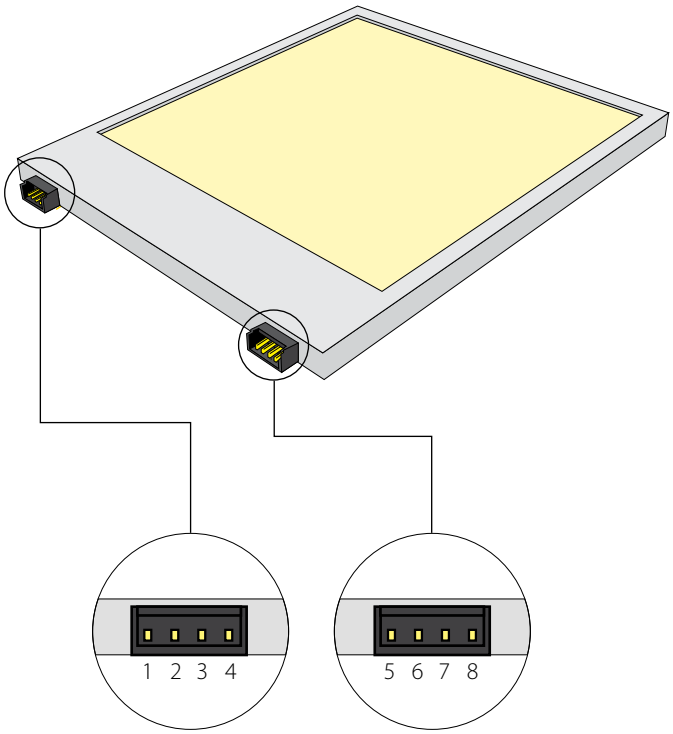
Electrical interface

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

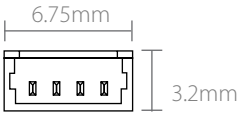
The LightCell includes 2 types of internal LED chips: Blue and Red; each type is serially connected inside the LightCell to provide a two-channel device.

Each channel can be controlled separately.

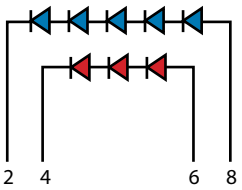
The following diagram and table describe the pin-out of the electrical interface:



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

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