

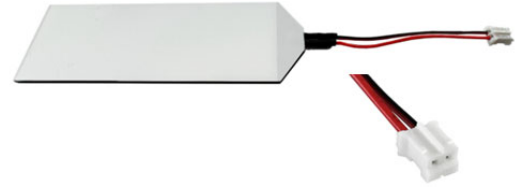
KWB-R8330-1W-L50

82mm×29.5mm White Backlight

Technical Data Sheet

Features

- Low current operation
- Excellent characters appearance
- Large area, uniform, bright light emitting surface.
- Switchable use of white LED and IR LED
- RoHS Compliant



Descriptions

- The KWB-R8330-1W-L50 is used as a backlight of emitting area 82mm×29.5mm.
- The display provides excellent reliability in bright ambient light.

Applications

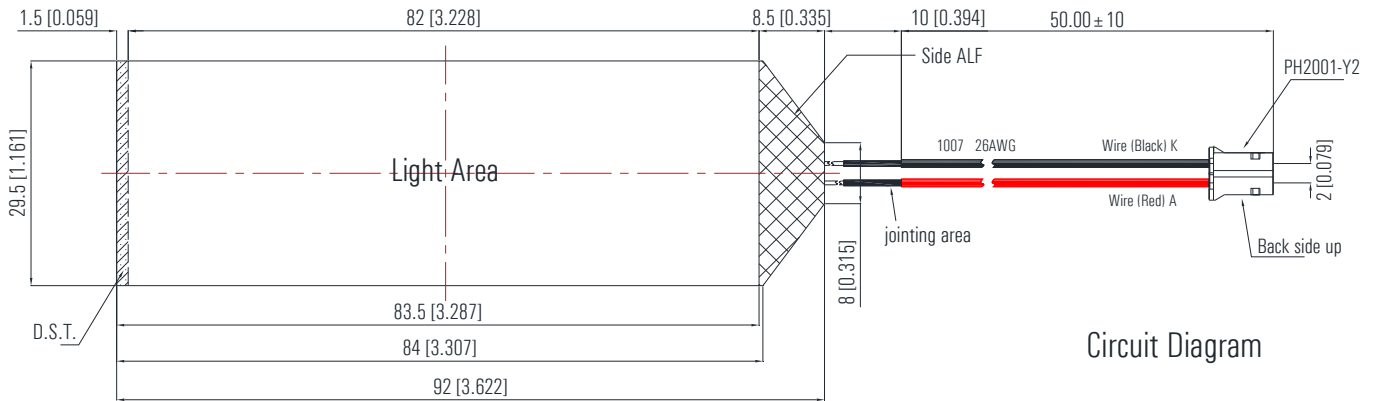
- Flat backlight for LCD, switches and symbols.
- Indicator and backlight in office equipment.
- Indicator and backlight for battery driven equipment.
- Indicator and backlight for audio and video equipment.
- Automotive: Backlighting in dashboards and switches.
- Telecommunication: Indicator and backlighting in telephone and fax.

Device Selection Guide

Part No.	Light Sources	Face Color
KWB-R8330-1W-L50	White	White

Technical Data Sheet

Package Dimension



Circuit Diagram



- ALF (Aluminium Foil)
- D.S.T. (Double Side Tape)
- E.L.A. (Effective Light Area)
- L.S.F (Light Shading Film)

Notes:

1. All dimensions are in millimeters (inches).
2. Tolerance is ± 0.25mm (.010") unless otherwise noted.
3. The specifications, characteristics and technical data described in the datasheet are subject to change without prior notice.

Technical Data Sheet

Absolute Maximum Ratings at $T_A=25^\circ\text{C}$

Parameters	Symbol	Max	Unit
Power Dissipation	P_D	64	mW
Peak Forward Current (1/10 Duty Cycle, 0.1ms Pulse Width)	I_{FP}	40	mA
Forward Current	I_F	20	mA
Reverse Voltage	V_R	5	V
Operating Temperature Range	T_{opr}	-20°C to +70°C	
Storage Temperature Range	T_{stg}	-25°C to +75°C	
Soldering Temperature	T_{slid}	260°C for 5 Seconds	

Electrical Optical Characteristics at $T_A=25^\circ\text{C}$

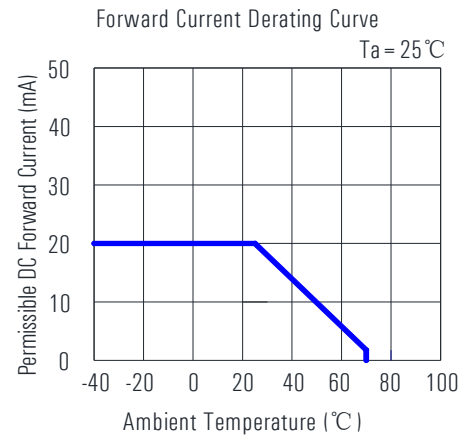
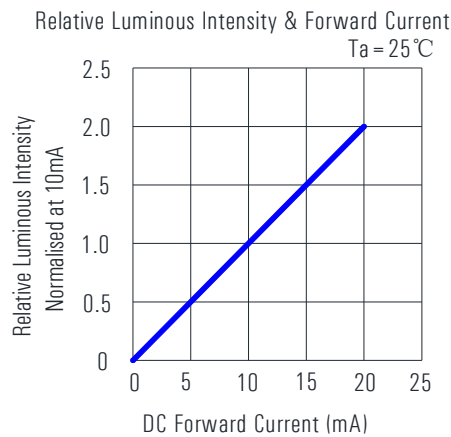
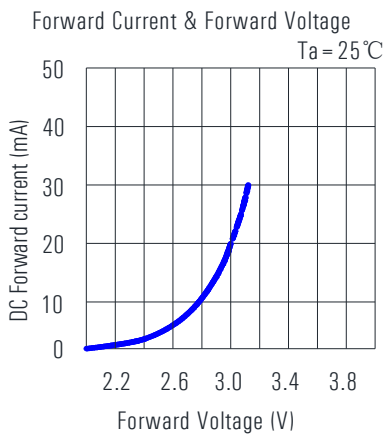
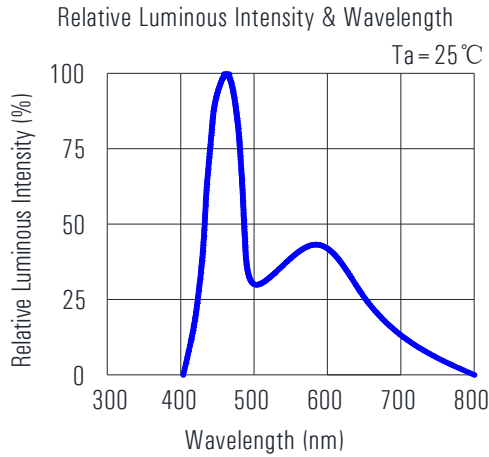
Parameters	Symbol	Min.	Typ.	Max.	Unit	Test Condition
Average Luminous Intensity	I_v	20	50	---	cd/m ²	IF=10mA (Note a)
Luminous Uniformity		---	75%	---		IF=10mA
Chromaticity Coordinates	x	---	0.30	---		IF=10mA (Note b)
	y	---	0.31	---		IF=10mA (Note b)
Forward Voltage	V_F	---	2.8	3.2	V	IF=10mA (Note c)
Reverse Current	I_R	---	---	50	μA	VR=5V

Notes:

- Luminous intensity is measured with a light sensor and filter combination that approximates the CIE eye-response curve.
Tolerance of Luminous Intensity: $\pm 10\%$.
- The chromaticity coordinates (x, y) is derived from the 1931 CIE chromaticity diagram.
- Tolerance of Forward Voltage: $\pm 0.1V$.

Technical Data Sheet

Typical Electrical/Optical Characteristic Curves at $T_A = 25^\circ\text{C}$

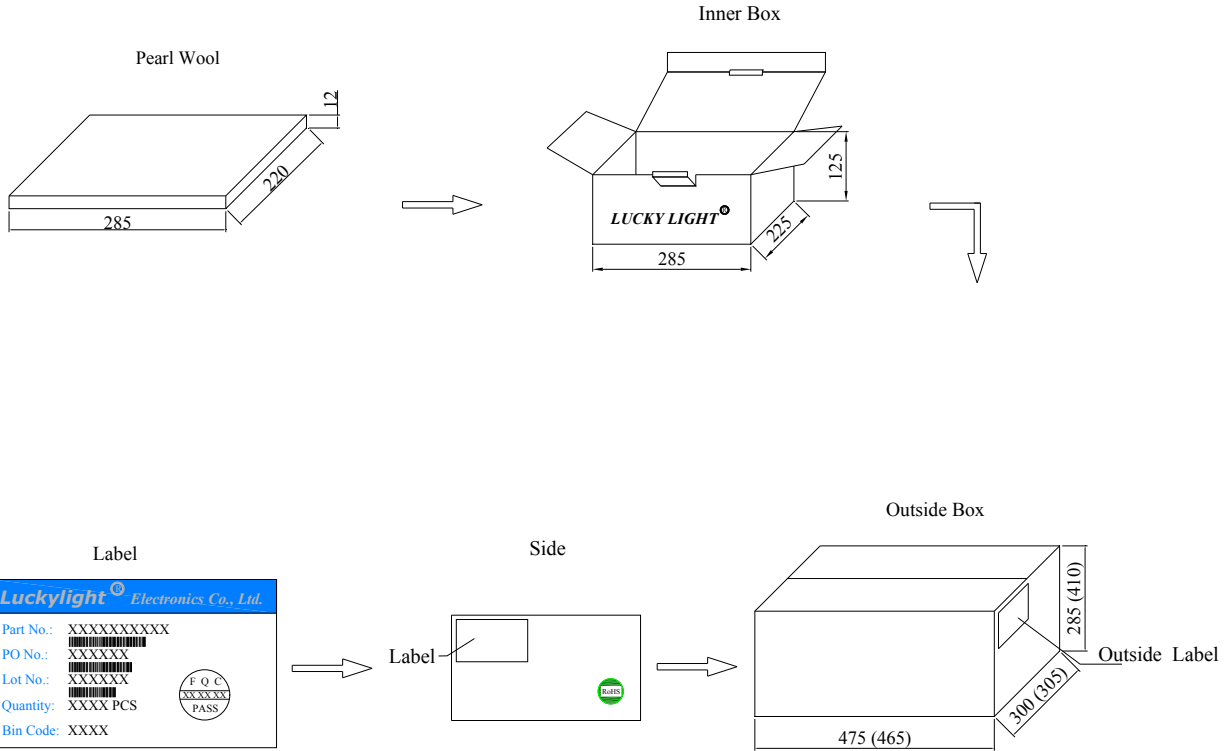


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Packing & Label Specifications



Technical Data Sheet

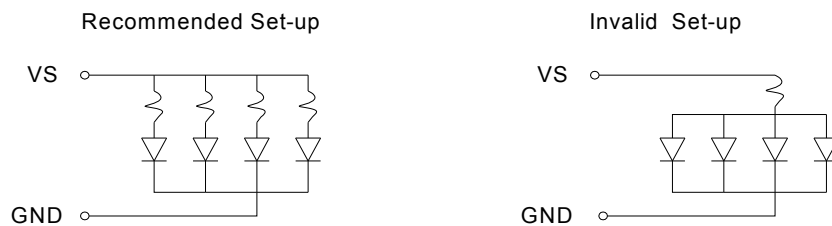
Terms and conditions for the usage of this document:

- a. The part number, type, and specifications mentioned in this document are subject to future change and improvement without notice. Before production usage customer should refer to the latest datasheet for the updated specifications.
- b. When using the products referenced in this document, please make sure the product is being operated within the environmental and electrical limits specified in the datasheet. If customer usage exceeds the specified limits, LuckyLight will not be responsible for any subsequent issues.
- c. The contents and information of this document may not be reproduced or re-transmitted without permission by LuckyLight.
- d. Over-current-proof
Customer must apply resistors for protection, otherwise slight voltage shift will cause big current change (Burn out will happen).
- e. LED Storage Instructions:
 - 1) Store LEDs at or below 30°C and at or below 80% relative humidity (RH) before opening the package.
 - 2) Use LEDs within one year of purchase.
 - 3) After opening the package, store LEDs at or below 30°C and at or below 60%RH.
- f. ESD (Electrostatic Discharge)
Static Electricity or power surge will damage the LED. Suggestions to prevent ESD damage:
 - 1) Use of a conductive wrist band or anti-electrostatic glove when handling these LEDs.
 - 2) All devices, equipment, and machinery must be properly grounded.
 - 3) Work tables, storage racks, etc. should be properly grounded.
- g. Notes for using backlight:
 - 1) The backlight requires a very high dust-proof level for the working environment. Welding and assembly must be done in a dust-free environment to prevent black spots and debris from affecting the lighting effect.
 - 2) The backlight should not be touched by other hard objects or dropped on the ground to prevent damage.
 - 3) Do not use hot air or high temperature to blow on the film of the backlight during operation to prevent damage to the film.
 - 4) The backlight should be handled with care, and protective gloves should be worn to prevent sweat and debris from adhering to the film, which may affect its appearance and lighting effect.
 - 5) Please get rid of the surface transparent protection film before use.

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Circuit Design Notes:

1. Protective current-limiting resistors may be necessary to operate the LEDs within the specified range.
2. LEDs mounted in parallel should each be placed in series with its own current-limiting resistor.



3. The driving circuit should be designed to protect the LED against reverse voltages and transient voltage spikes when the circuit is powered up or shut down.
4. The safe operating current should be chosen after considering the maximum ambient temperature of the operating environment.
5. Prolonged reverse bias should be avoided, as it could cause metal migration, leading to an increase in leakage current or causing a short circuit.

Technical Data Sheet

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2. Description of Data in Datasheets:

The data presented in this datasheet represents typical values and does not constitute guaranteed figures. The data provided is for reference purposes only.

3. Compliance with Usage Instructions:

When using this product, please strictly adhere to the absolute maximum ratings and instructions outlined in the specification sheets. LuckyLight shall not be held responsible for any damage resulting from non-compliance with these instructions.

4. Application Limitations:

This product is not intended for applications in military, aviation, automotive, medical, life-sustaining, or life-saving fields where failure could cause personal injury or death. For specific application requirements, please consult an authorized LuckyLight sales representative.

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Technical Data Sheet

Revision History

Version	Date	Contents	Page
Version 1	March 18, 2009	Original Version	/
Version 2	December 10, 2012	Update the layout of the specifications data sheet	/
Version 3	March 16, 2017	Optimize product data	4
Version 4	December 31, 2024	Update the company logo, product images, specification drawings, and optical-electric curve charts, Packaging specifications	1-6