



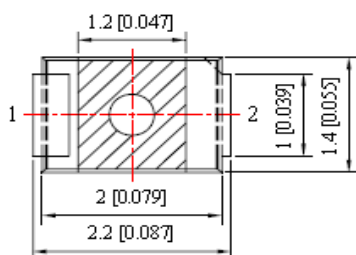
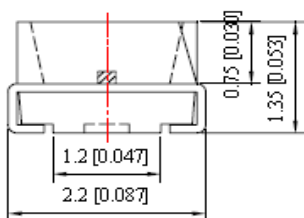
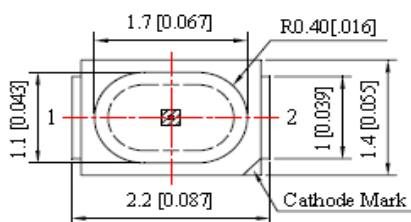
**Applications**

- Reading lights ( car, bus, aircraft )
- LCD Backlights / light Guides
- Fiberoptic alternative / Decorative / Entertainment
- Indoor / Outdoor commercial and Residential Architectural
- Mini-a ccent / Up lighters / Down Lighters / Orientation
- Cove / Under shell / Task
- Bollards / Security / Garden Applications
- Portable Flashlight / Bicycle
- Edge lit signs / Stop tail turn, SHMSL Mirror-Side Repeat
- Traffic signaling / Beacons / Railcrossing and Wayside

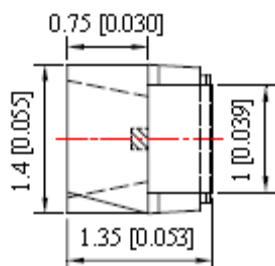
**Features**

- Long operating life
- highest flux
- Lambertian radition pattern
- More energy efficient than incandescent and most halogen lamps
- Available in White
- Low Voltage DC operated
- Cool beam, safe to the touch
- Instant light ( less than 100ns)
- Fully dimmable
- NO UV

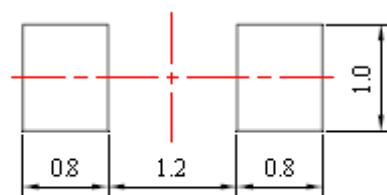
**Technical Drawing**



**Polarity**



**Recommended Soldering Pattern**



Unit: mm  
 Tolerance: ±0.10mm

**Notes :**

All dimensions in mm tolerance is ± 0.1mm unless otherwise noted.

<b>Mini PLCC2 SMD LED 2,0x1,4 Hyper Red</b>	
Part No.:	<b>M11F4005</b>
Customer:	

DRW:	Dong	CHKD	Chang	MATL:	Chui	DATE	25.02.2011
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**Typical Optical / Electrical Characteristics @ Ta=25°C**

Item	symbol	Condition	Min	Typ	Max.	Unit
Forward Voltage	VF	IF=20mA	1,60	2,00	2,40	V
Reverse Current	IR	VR=5V			10	µA
Viewing Angle	2Ø <sub>1/2</sub>	IF=20mA		120		deg
Luminous Intensity	ØV	IF=20mA	45	90		mcd
Peak Emission Wavelength				632		nm
Dominant Wavelength				624		nm
Spectral Line Half Width	ΔY			20		nm

Notes

- 1 Tolerance of measurement of forward voltage ± 0,1V
- 2 Tolerance of measurement of peak Wavelength ± 2,0nm
- 3 Tolerance of measurement of luminous intensity ± 15%

**Absolute Maximum Rating**

Item	symbol	Absolute Maximum Rating	Unit
Forward Current	IF	25	mA
Peak Forward Current	IFD	100	mA
Reverse Voltage	VR	5	V
Power Dissipation	PD	60	mW
Operating Temperature	Topr	. -40°C to + 80°C	
Electrostatic discharge	ESD	±2000	V
Storage Temperature	Tstg	. -40°C to +85°C	
Lead Soldering Temperature	Tsol	260°C for 3 seconds max.	

IFP Conditions: Pulse Width: ≤ 10msec duty ≤ 1/10

All High Power emitter LED Products mounted on aluminium metal-core printing circuit board, can be lighted directly, but we do not recommend lighting the high power products for more than 5 seconds without a directly, but we do not recommend lighting the high power products for more than 5 seconds without a appropriate heat dissipation equipment.

Re-flow, wave peak and soak-stannum soldering etc. is not suitable for this products.

Suggest to solder it by professional high power LED soldering machine.

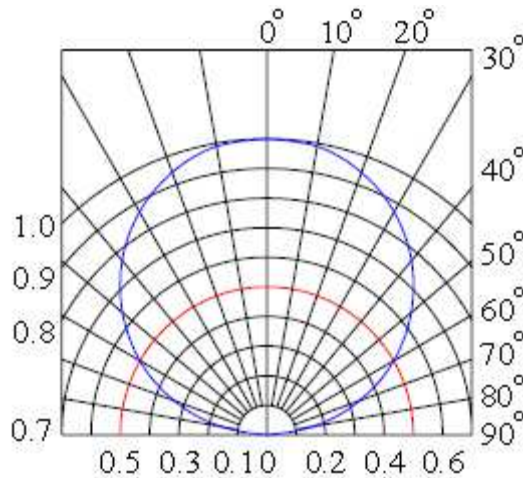
Can use invariable - temperature searing-iron with soldering condition: ≤260°C for 3 seconds max.

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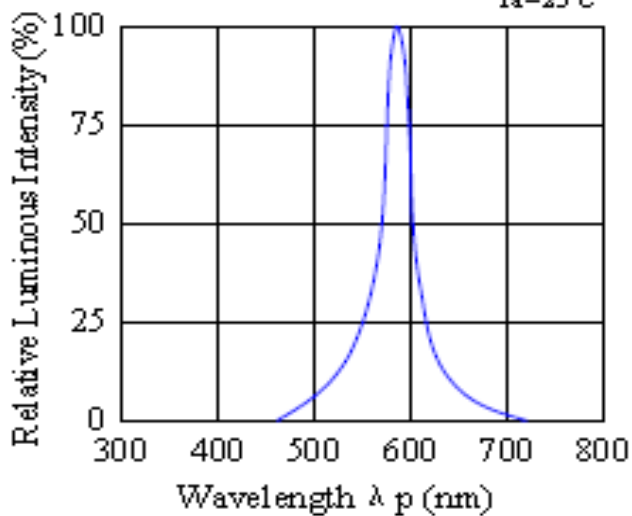
**Directive Characteristics**



**Typical optical / Electrical Characteristics Curves ( T<sub>j</sub>=25°C Unless Otherwise Noted )**

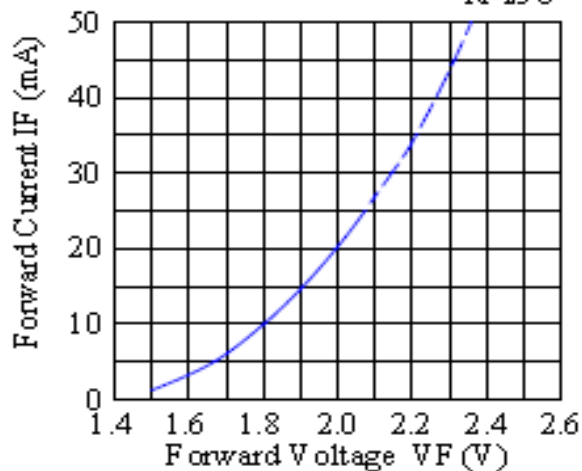
**Spectrum Distribution**

T<sub>a</sub>=25°C



**Forward Current & Forward Voltage**

T<sub>a</sub>=25°C

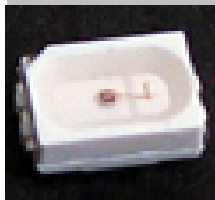


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 Hyper Red**

Part No.: **M11F4005**

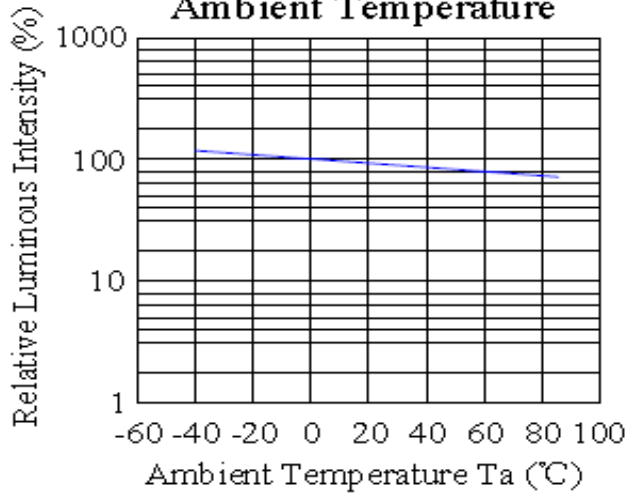
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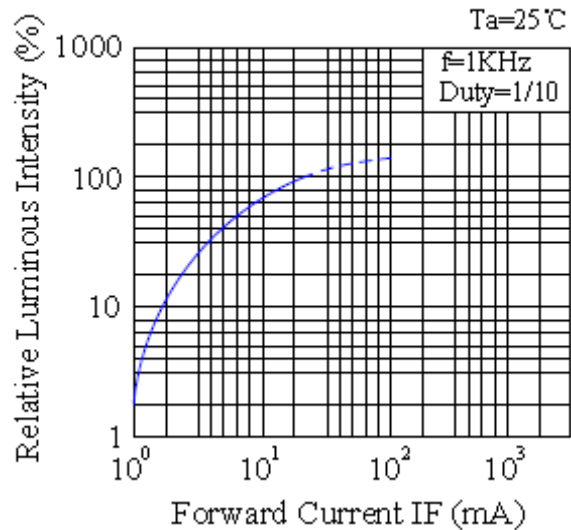


Typical optical / Electrical Characteristics Curves (  $T_j=25^{\circ}\text{C}$  Unless Otherwise Noted )

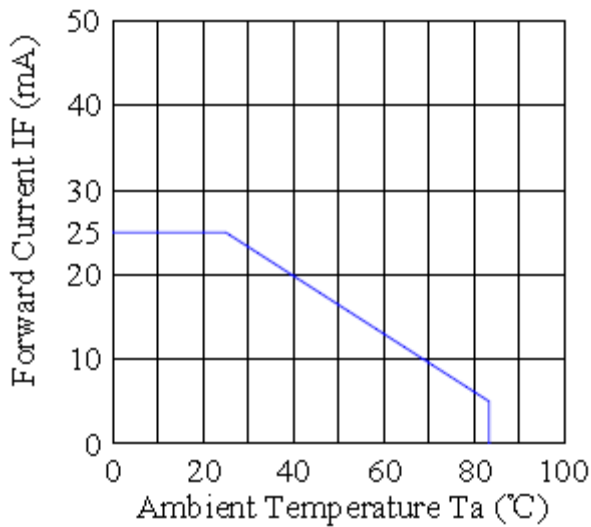
**Luminous Intensity & Ambient Temperature**



**Luminous Intensity & Forward Current**



**Forward Current Derating Curve**



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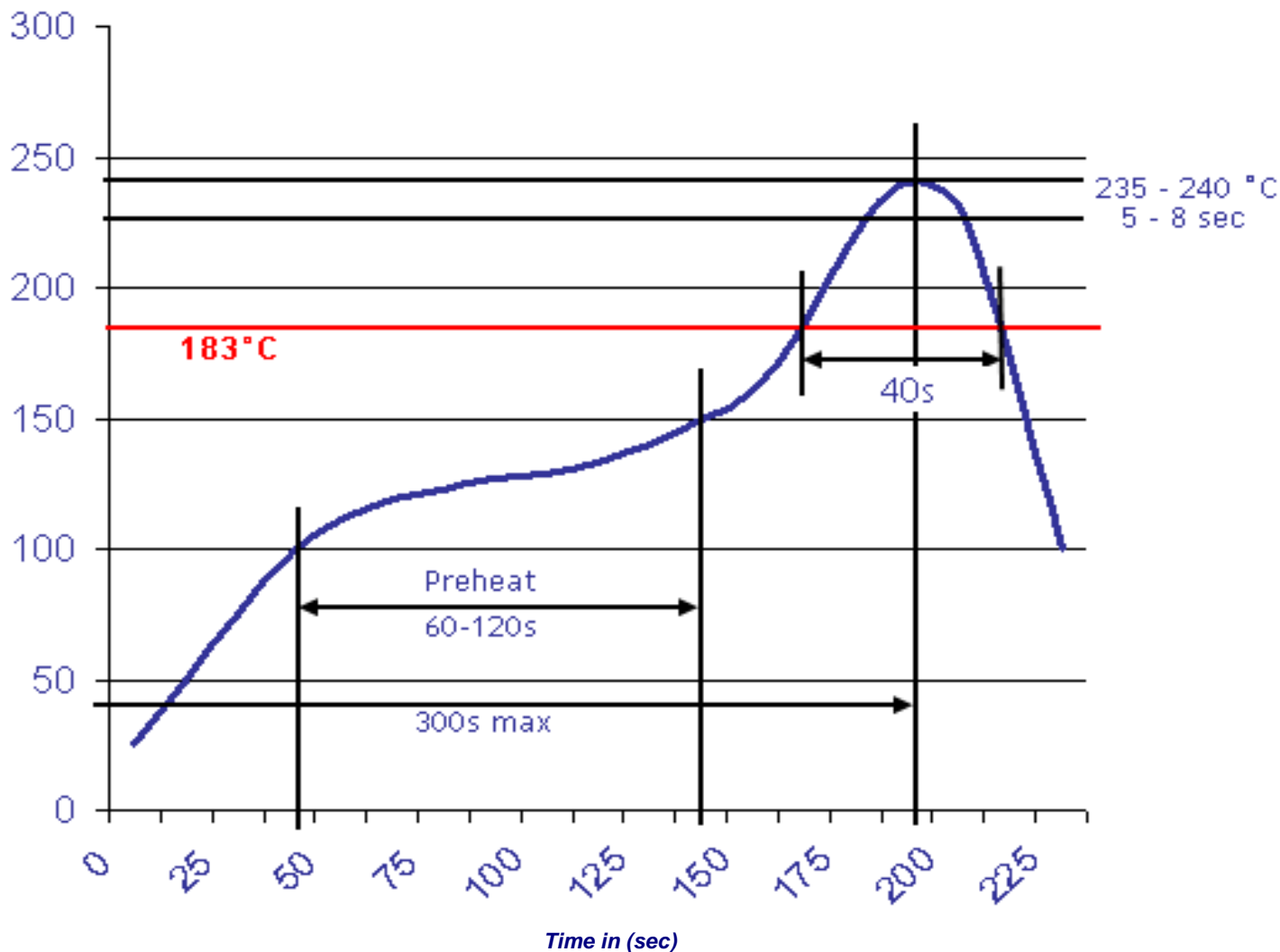
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**Solder Condition**

**Lead Free Solder**

**Classification Reflow Profile (JEDEC J-STD-020C)**

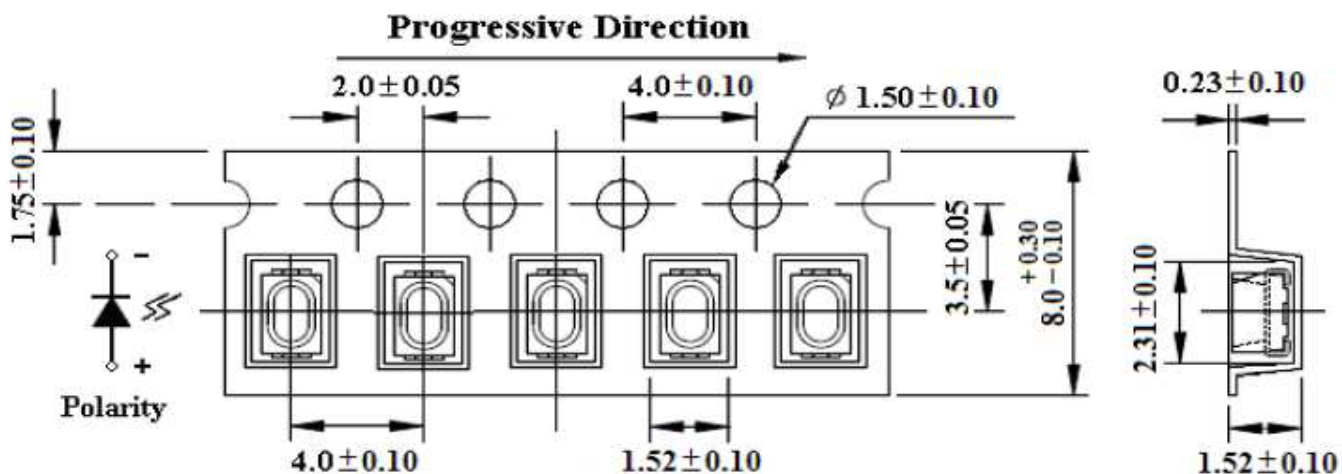


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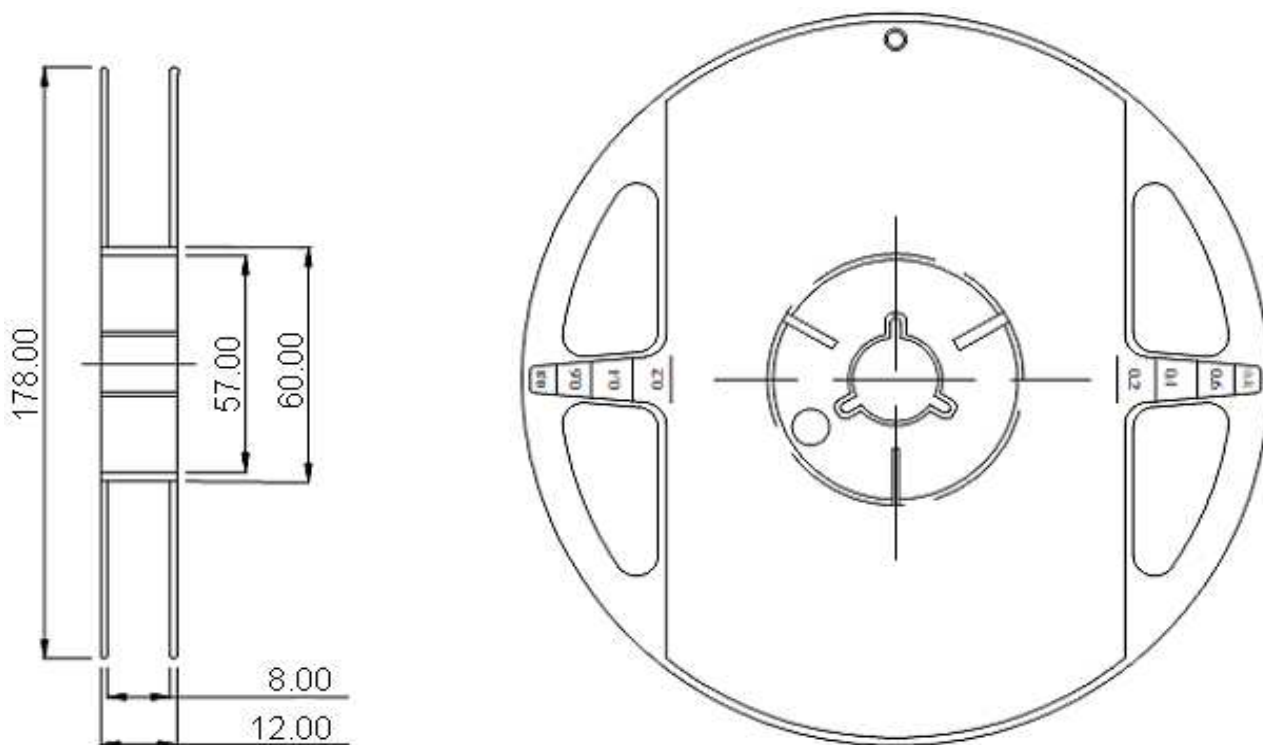


**Packing Specifications**



Unit: mm  
 Tolerance:  $\pm 0.10$  mm

**Reel Specifications**



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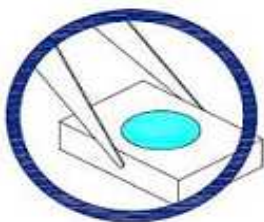
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### Handling Precautions

Compare to epoxy encapsulant that is hard and brittle, silicone is softer and flexible. Although its characteristic significantly reduces thermal stress, it is more susceptible to damage by external mechanical force. As a result, special handling precautions need to be observed during assembly using silicone encapsulated LED products. Failure to comply might lead to damage and premature failure of the LED.

1. Handle the component along the side surfaces by using forceps or appropriate tools



2. Do not directly touch or handle the silicone lens surface. It may damage the internal circuitry.



3. Do not stack together assembled PCBs containing exposed LEDs. Outside impact may scratch the silicone lens or damage the internal circuitry.



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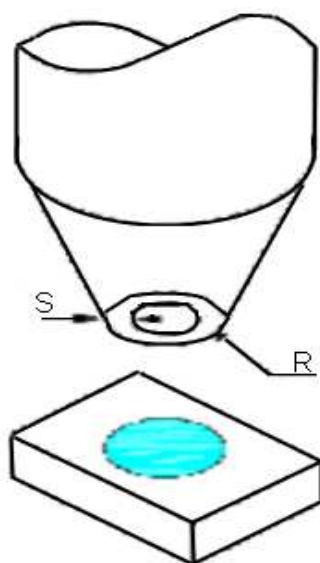
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### Handling Precautions

4. The outer diameter of the TOP LED pickup nozzle should not exceed the size of the LED to prevent air leaks. The inner diameter of the nozzle should be as large as possible.
5. A pliable material is suggested for the nozzle tip to avoid scratching or damaging the LED surface during pickup.
6. The dimensions of the component must be accurately programmed in the pick-and-place machine to insure precise pickup and avoid damage during production.



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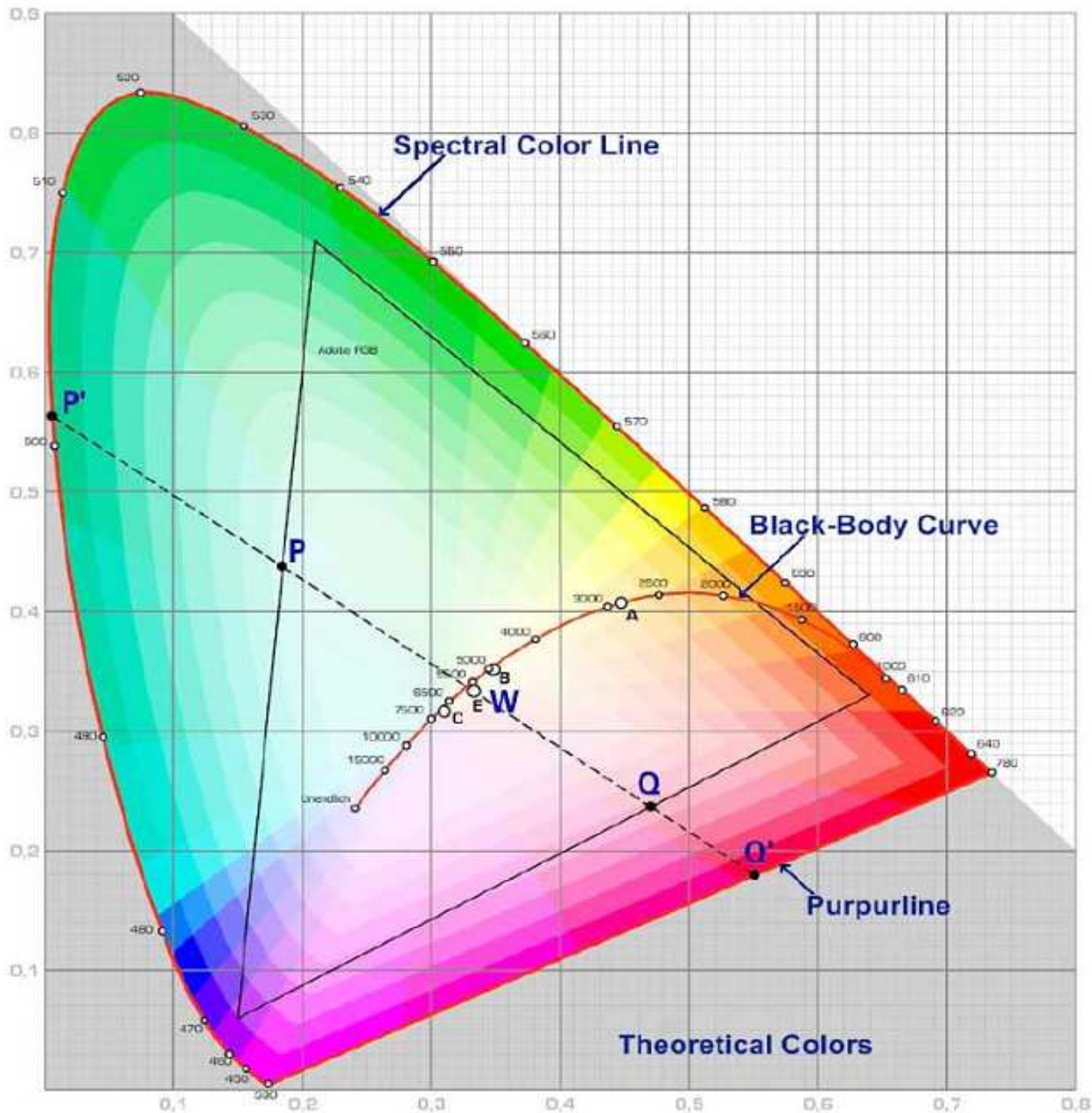
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Color table curve



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