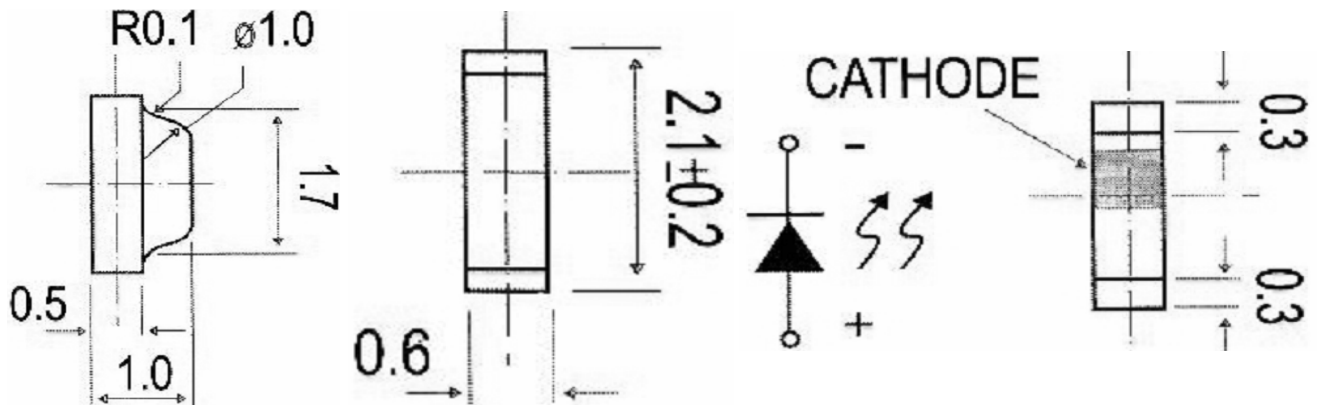




**Applications**

- Interior automotive lighting
- Optical indicators
- Communication Products
- Backlighting
- Toys

**Technical Drawing**



**Recommended Soldering Pattern**

**Notes :**

All dimensions in mm tolerance is  $\pm 0.1\text{mm}$  unless otherwise noted.

|                                       |                 |
|---------------------------------------|-----------------|
| <b>Right Angle Chip LED<br/>White</b> |                 |
| Part No.:                             | <b>M11M7006</b> |
| Customer:                             |                 |

|       |      |      |       |        |      |       |            |
|-------|------|------|-------|--------|------|-------|------------|
| DRW:  | Dong | CHKD | Chang | MATL:  | Chui | DATE  | 06.12.2009 |
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**Absolute Maximum Ratings**

Ta=25°C

| Item                   | Symbol            | GaN        | Unit |
|------------------------|-------------------|------------|------|
| Power Dissipation      | P <sub>D</sub>    | ---        | mW   |
| DC Forward Current     | I <sub>F</sub>    | 20         | mA   |
| Pulsed Forward Current | I <sub>FP</sub> * | ---        | mA   |
| Reverse Voltage        | V <sub>R</sub>    | ---        | V    |
| Operating Temperature  | T <sub>OP</sub>   | ---        | °C   |
| Storage Temperature    | T <sub>ST</sub>   | -55 to 100 | °C   |

\* 0.1 msec pulse, 10% duty cycle

**Electrical / Optical Characteristics**

I<sub>F</sub>=20mA Ta=25°C

| Ermitting Color      | White             |     |                |
|----------------------|-------------------|-----|----------------|
| Material             | GaN               |     |                |
| Forward Voltage      | typ.              | 3.6 | V <sub>F</sub> |
|                      | max.              | 4.0 | V <sub>F</sub> |
| Wavelength<br>typ.   | λ <sub>D</sub>    | --- | nm             |
|                      | λ <sub>P</sub>    | --- | nm             |
|                      | Δλ                | --- | nm             |
| Color Temperature    | min.              | --- | K              |
|                      | max.              | --- | K              |
| Luminous Intensity * | min.              | 100 | mcd            |
|                      | typ.              | 160 | mcd            |
| Reverse Current      | max.              | --- | μA             |
| Viewing Angle        | 2θ <sub>1/2</sub> | 130 |                |

\* Per NIST standards

**Right Angle Chip LED  
White**

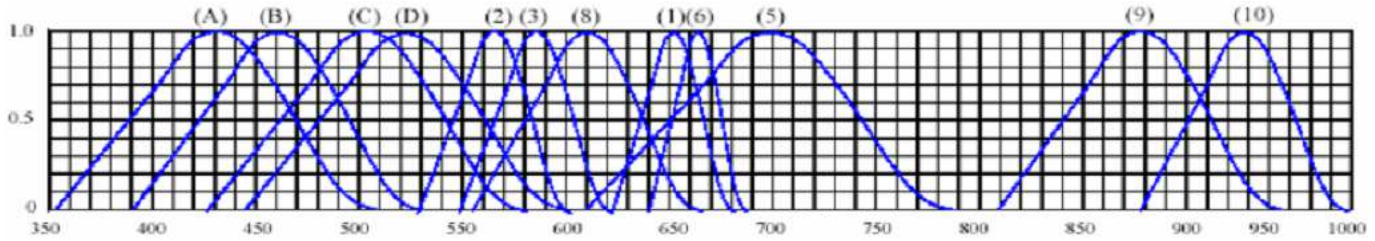
Part No.: **M11M7006**

Customer:

|       |      |      |       |        |      |       |            |
|-------|------|------|-------|--------|------|-------|------------|
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**Curve**



Wavelength ( nm )

**Relative Intensity vs Wavelength**

|       |                                   |        |                        |
|-------|-----------------------------------|--------|------------------------|
| ( 1 ) | GaAsP / GaAs<br>655nm Red         | ( 9 )  | GaAlAs<br>880nm        |
| ( 2 ) | GaP<br>568nm Yellow Green         | ( 10 ) | GaAs & GaAlAs<br>940nm |
| ( 3 ) | GaAsP / GaP<br>585nm Yellow       | ( A )  | GaN<br>430nm Blue      |
| ( 4 ) | GaAsP / GaP<br>635nm Orange & Red | ( B )  | InGaN<br>470nm Blue    |
| ( 5 ) | GaP<br>700nm Red                  | ( C )  | InGaN<br>502nm Green   |
| ( 6 ) | GaAlAs / GaAs<br>660nm Red        | ( D )  | InGaN<br>523nm Green   |
| ( 8 ) | GaAsP / GaP<br>610nm Red          |        |                        |

**Right Angle Chip LED  
 White**

Part No.: **M11M7006**

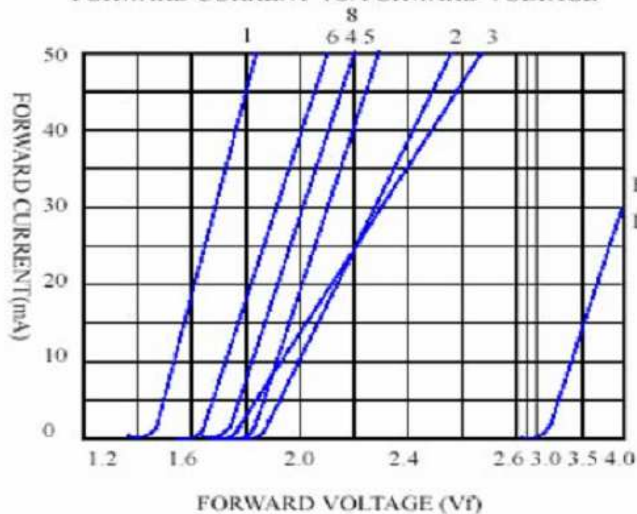
Customer:

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|-------|------|------|-------|--------|------|-------|------------|
| DRW:  | Dong | CHKD | Chang | MATL:  | Chui | DATE  | 06.12.2009 |
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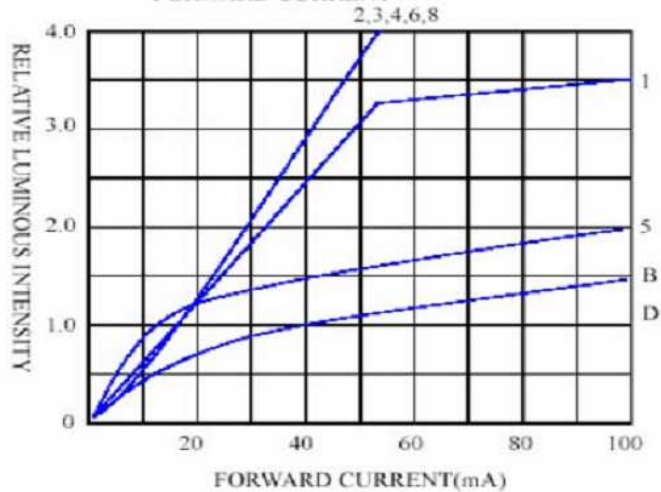


**Curve**

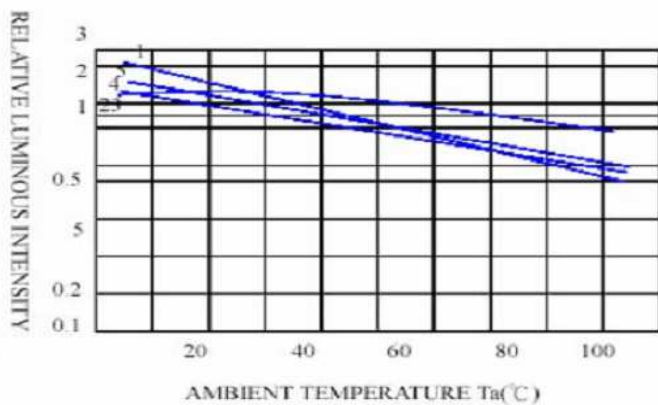
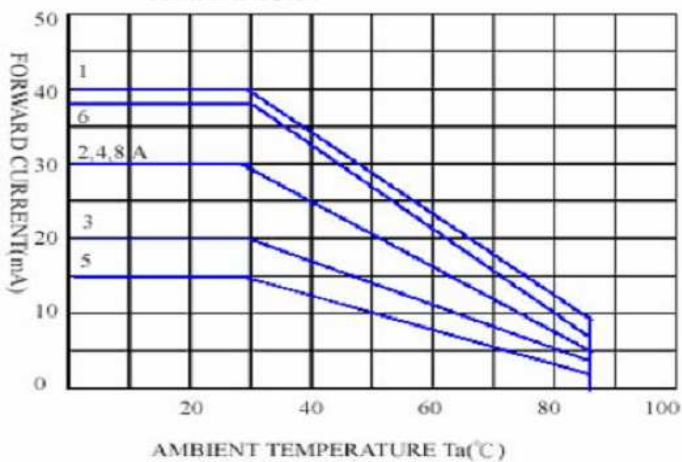
FORWARD CURRENT VS. FORWARD VOLTAGE



RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT



FORWARD CURRENT VS. AMBIENT TEMPERATURE



**Right Angle Chip LED  
 White**

Part No.: **M11M7006**

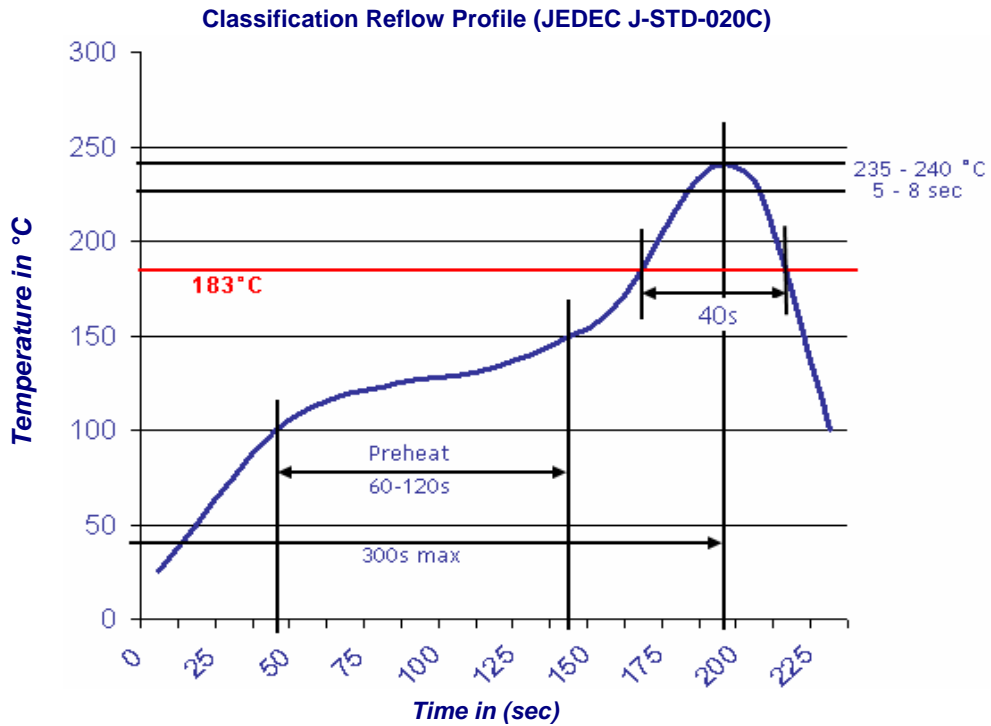
Customer:

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|-------|------|------|-------|--------|------|-------|------------|
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**Solder Condition**

**Lead Free Solder**



**Right Angle Chip LED  
White**

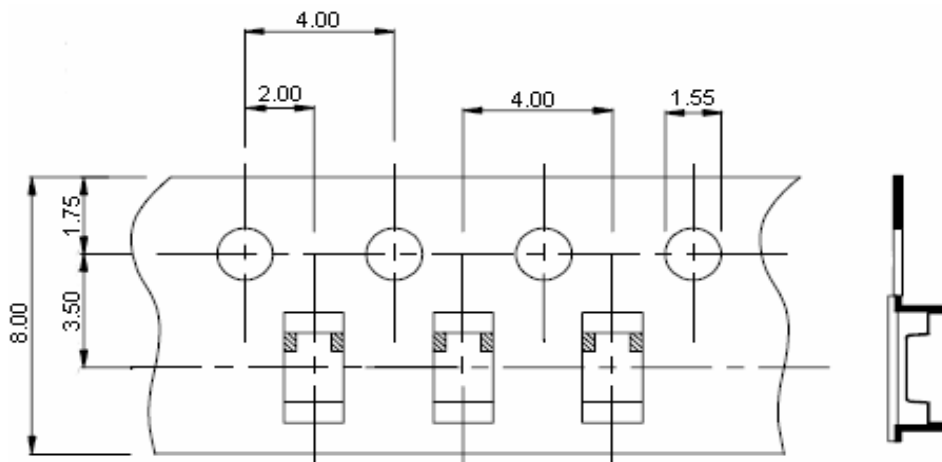
Part No.: **M11M7006**

Customer:

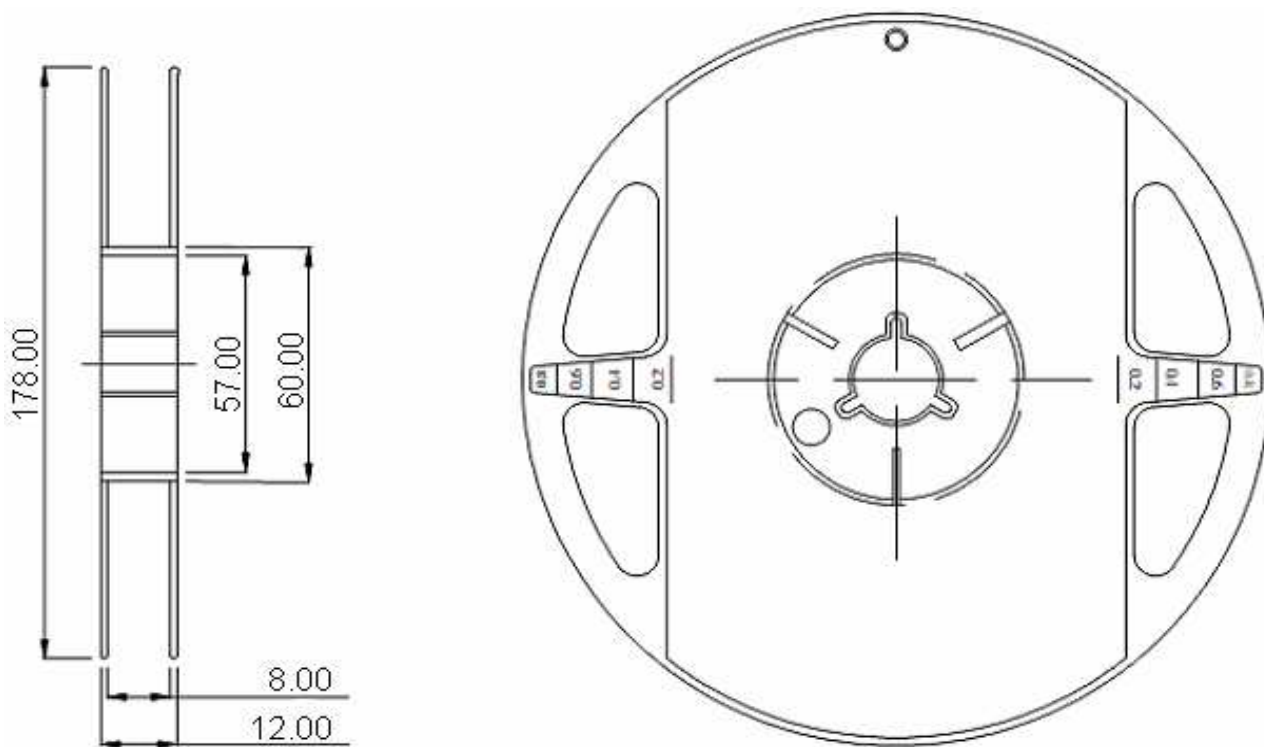
|       |      |      |       |        |      |       |            |
|-------|------|------|-------|--------|------|-------|------------|
| DRW:  | Dong | CHKD | Chang | MATL:  | Chui | DATE  | 06.12.2009 |
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**Packing Specifications**



**Reel Specifications**



**Right Angle Chip LED  
 White**

Part No.: **M11M7006**

Customer:

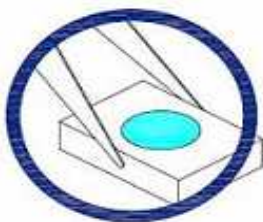
|       |      |      |       |        |      |       |            |
|-------|------|------|-------|--------|------|-------|------------|
| DRW:  | Dong | CHKD | Chang | MATL:  | Chui | DATE  | 06.12.2009 |
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**Handling Precautions**

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.

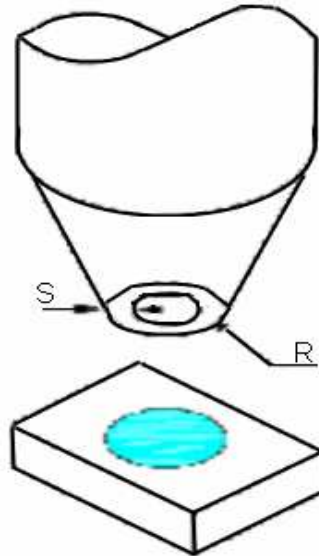


|                                       |                 |
|---------------------------------------|-----------------|
| <b>Right Angle Chip LED<br/>White</b> |                 |
| Part No.:                             | <b>M11M7006</b> |
| Customer:                             |                 |

|       |      |      |       |        |      |       |            |
|-------|------|------|-------|--------|------|-------|------------|
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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.



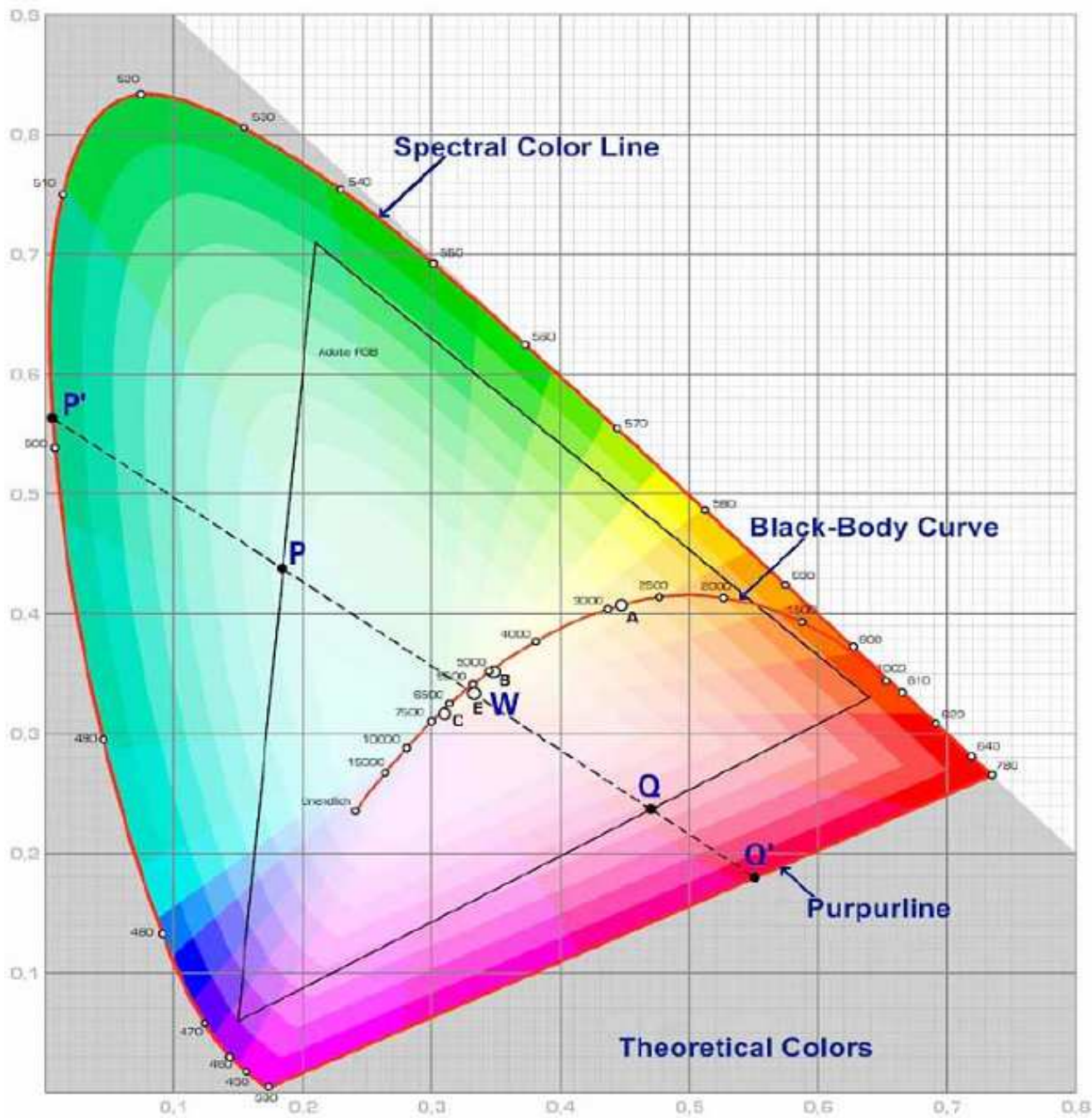
|                                       |                 |
|---------------------------------------|-----------------|
| <b>Right Angle Chip LED<br/>White</b> |                 |
| Part No.:                             | <b>M11M7006</b> |
| Customer:                             |                 |

|       |      |      |       |        |      |       |            |
|-------|------|------|-------|--------|------|-------|------------|
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**Color table curve**



|                                       |                 |
|---------------------------------------|-----------------|
| <b>Right Angle Chip LED<br/>White</b> |                 |
| Part No.:                             | <b>M11M7006</b> |
| Customer:                             |                 |

|       |      |      |       |        |      |       |            |
|-------|------|------|-------|--------|------|-------|------------|
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