

# TX-1860W12FC120-NUFEZW-B04D

## PRODUCT SPECIFICATION (R&D version)

### Features:

- ◆Excellent transiting heat from LED chip operating under 1200 mA.
- ◆Ceramic eutectic package allows it to have minimal internal stress and excellent thermal path.
- ◆Flip chip coated with package, the output of lumen is stable.
- ◆High luminous output.
- ◆Encapsulated materials are environmentally certified and meet environmental requirements.

### Chip Material:

- ◆GaN

### Emitting Color:

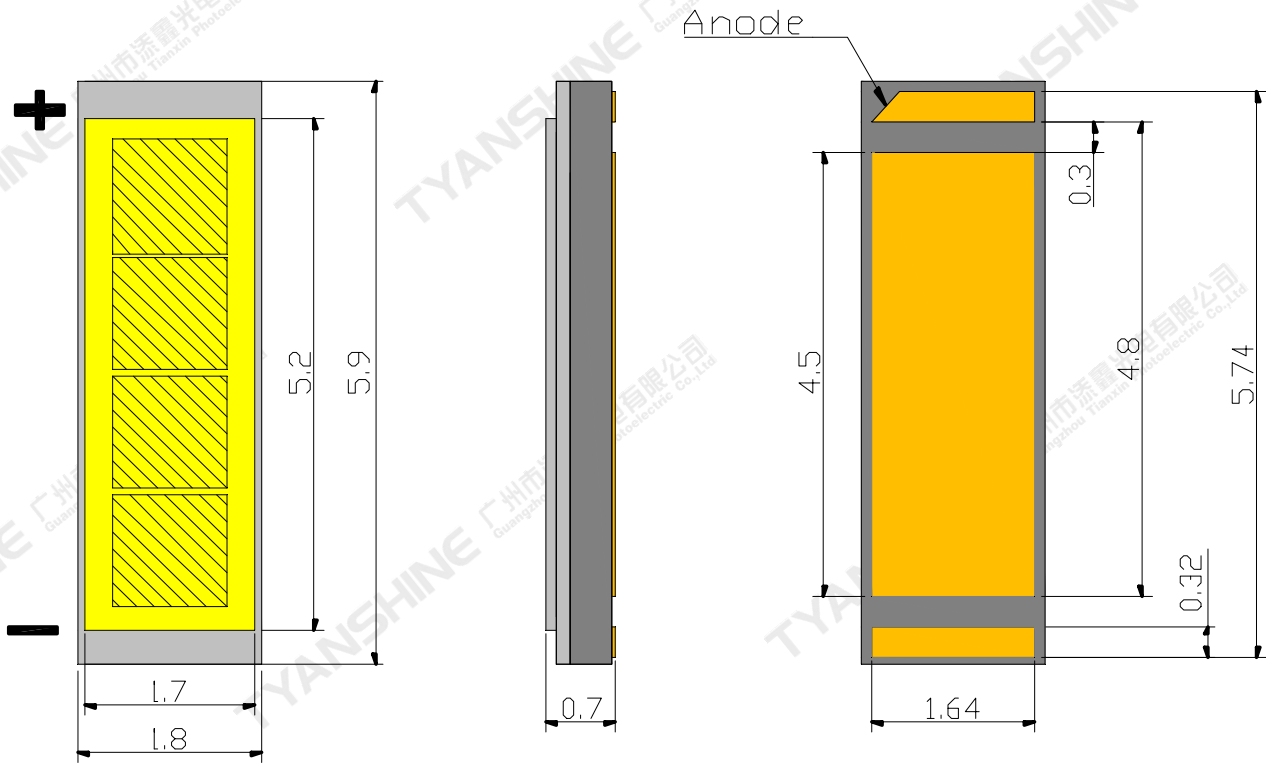
- ◆cold white

### Applications:

- ◆Automobile lighting

Part No.	TX-1860W12FC120-NUFEZW-B04D	Spec No.		Page	1 of 9
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**Package Dimensions:**



**Notes:**

- 1.All dimensions are in millimeters .
- 2.Tolerances unless otherwise mentioned are  $\pm 0.1\text{mm}$  .

**Absolute Maximum Ratings (Tc=25°C)**

Parameter	Symbol	Ratings	Unit
Forward Current	IF	1200	mA
Reverse Voltage	VR	Not designed for reverse operation	V
Power Dissipation	PD	16.2	W
Junction Temperature	Tj	150	°C
Electrostatic Discharge Threshold (ESD)	ESD	2000	V
Storage Temperature	Tstg	-20~+65	°C
Operation Temperature	Topr	-40~+125	

**Notes:**

- Specifications are subject to change without notice.
- The data on this specification is for reference only and the actual data is in accordance with the acknowledgment.
- Precautions for ESD:  
STATIC SHIELD Electricity and surge damages the LED. It is recommended to use a wrist band or anti-electrostatic glove when handling the LED. All devices, equipment and machinery must be properly grounded.

**Electrical Optical Characteristics (Tc=25°C)**

Parameter	Symbol	Condition	Min.	Typ.	Max.	Units
Luminous Flux	$\phi_v$	If=1000mA	1200	1400	1600	lm
Forward Voltage	$V_f$		11.1	12.3	13.5	V
Correlated Colour Temperature	CCT		5300	6000	6700	K
Viewing Angle at 50 % IV	$2\theta_{1/2}$	—	—	120	—	Deg
Reverse Current	$I_R$	$V_R=5V$	—	—	—	$\mu A$
Thermal Resistance Junction to Case	$R_{\theta J-C}$	—	—	0.8	—	K/W
Temperature Coefficient of Voltage	$V\Delta F/T$	If=1000mA	—	-4.8	—	mV/°C

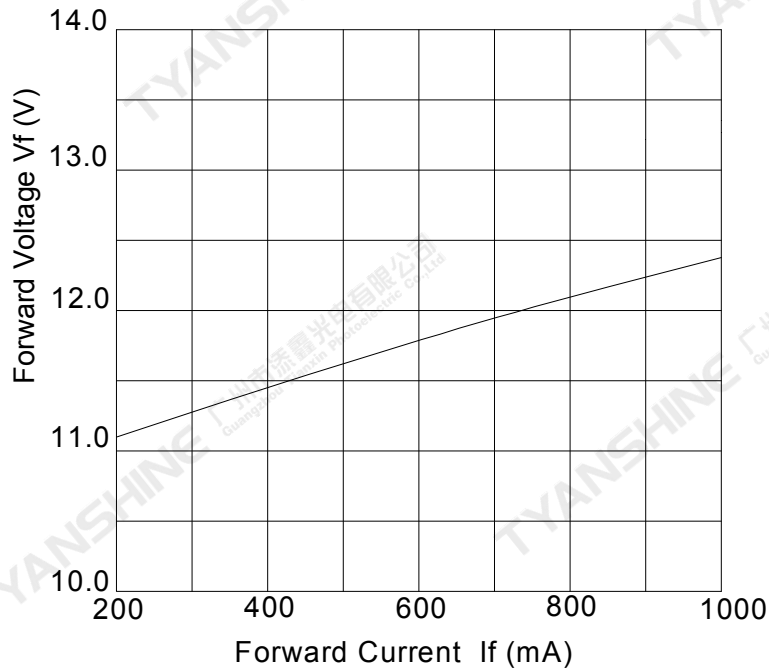
**Notes:**

- 1.Luminous intensity is measured with a light sensor and filter combination that approximates the CIE eye-response curve.
2. $\theta_{1/2}$  is the off-axis angle at which the luminous intensity is half the axial luminous intensity.
- 3.The dominant wavelength ( $\lambda_d$ ) is derived from the CIE chromaticity diagram and represents the single wavelength which defines the color of the device.
- 4.Luminous flux measurement tolerance: $\pm 15\%$ .
- 5.Forward voltage measurement tolerance: $\pm 0.15V$ .

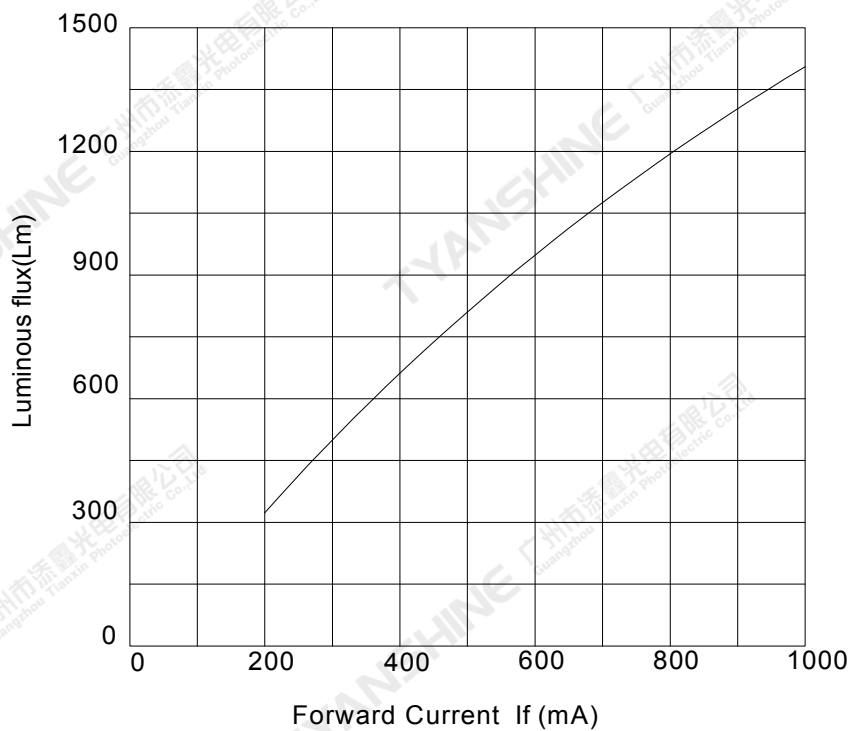
## Typical Electrical/Optical Characteristics Curves

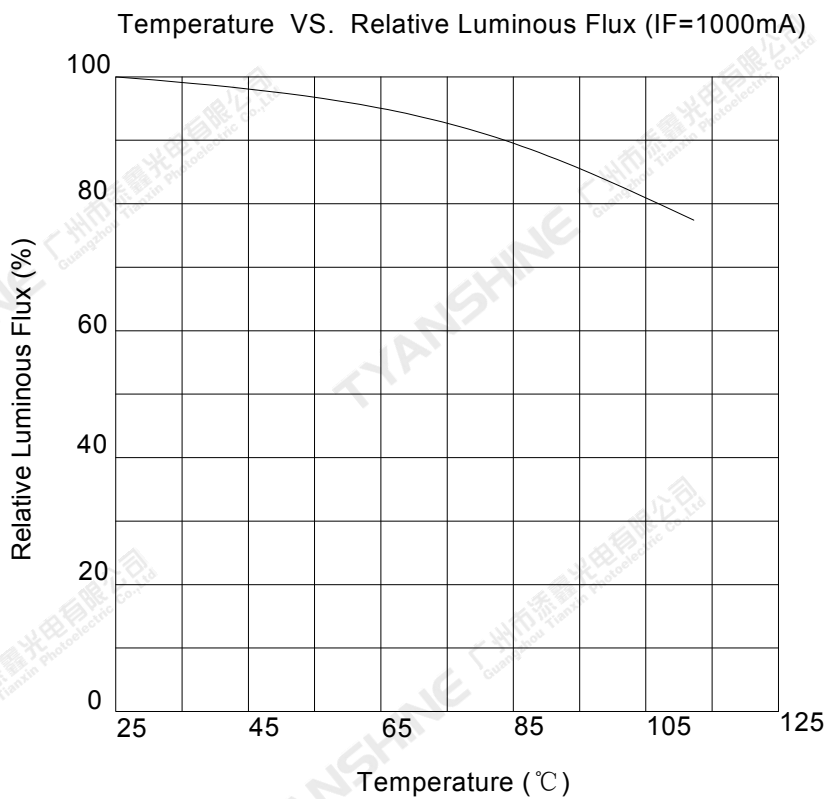
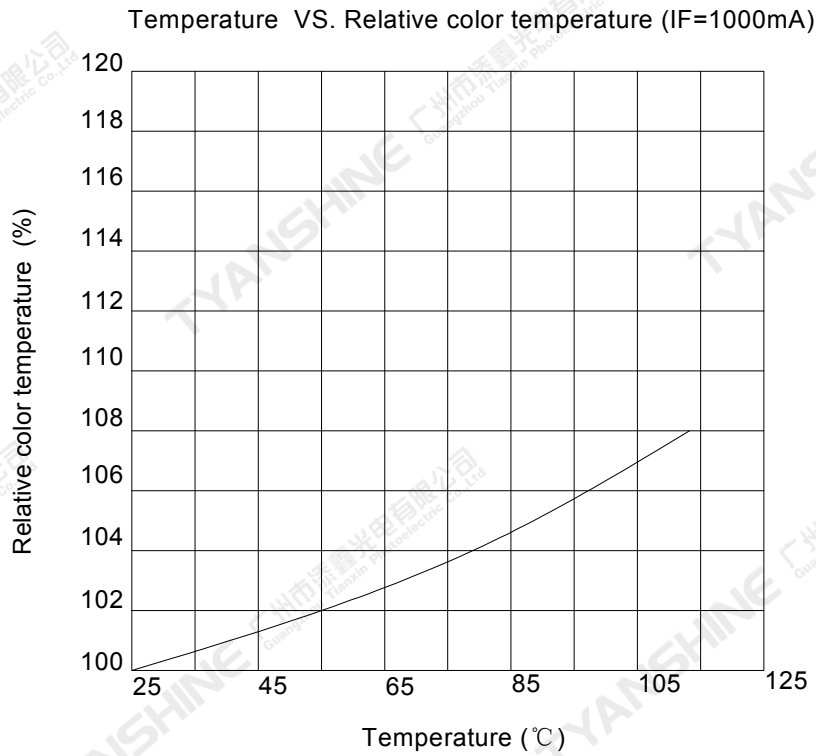
(25°C Ambient Temperature Unless Otherwise Noted)

Forward Current VS. Forward Voltage

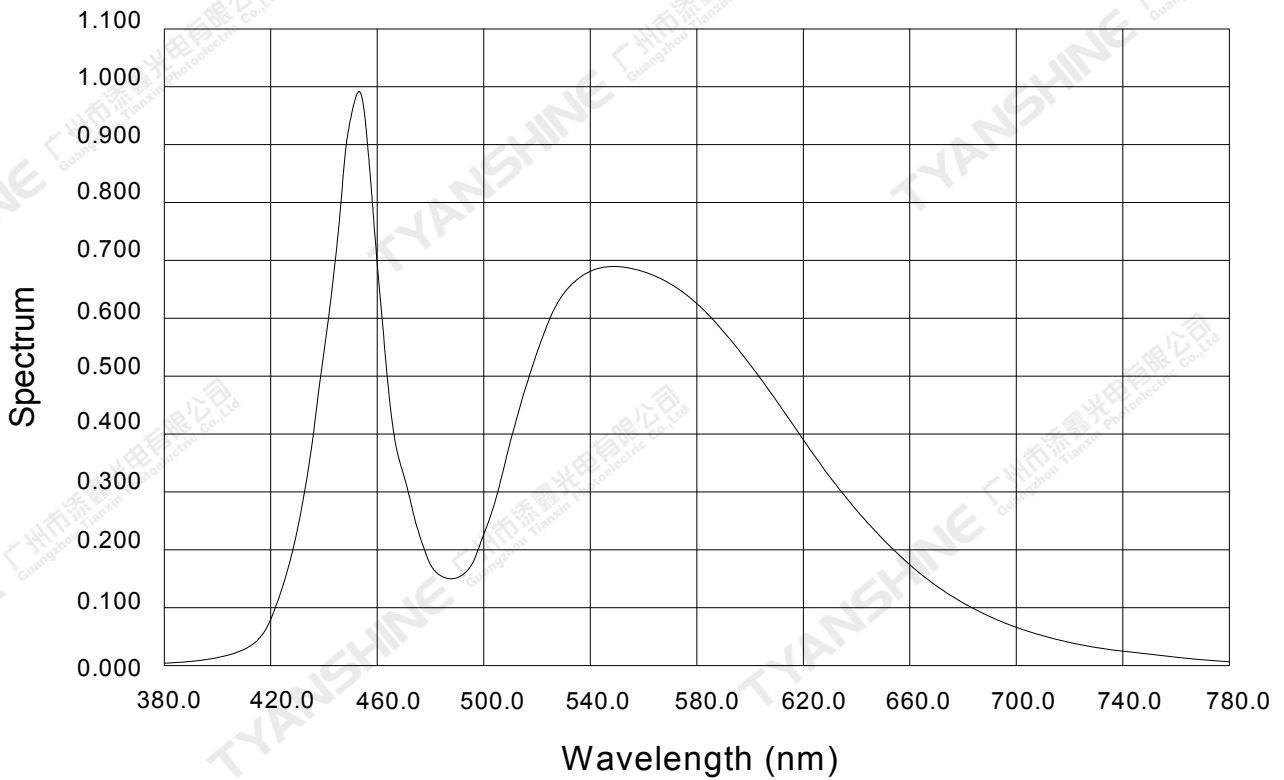


Forward Current VS. Luminous flux

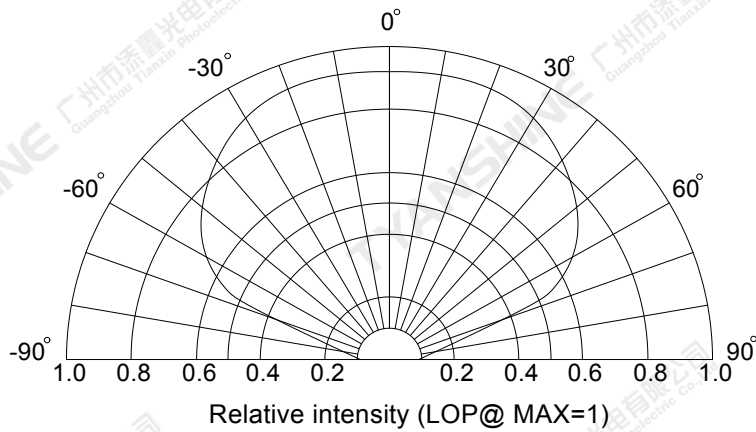




**Relative Spectral Distribution**



**Beam Pattern**



**Notes:**

1.  $2\theta_{1/2}$  is the off axis angle from lamp centerline where the luminous intensity is 1/2 of the peak value.
2. View angle tolerance is  $\pm 5^\circ$ .

Part No.	TX-1860W12FC120-NUFEZW-B04D	Spec No.		Page	7 of 9
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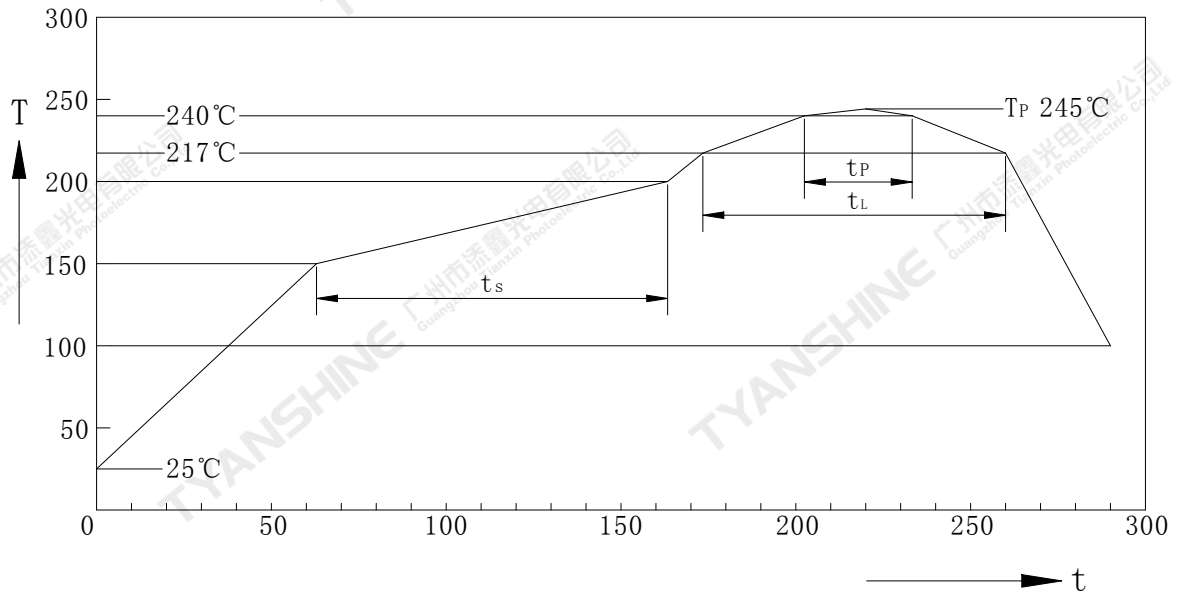
## Usage Precautions

### Storage Environment Condition

Temperature: 5°C ~ 30°C (41°F ~ 86°F )

Humidity: 60% RH Max.

### Soldering Condition



Profil-Charakteristik Profile Feature	Symbol	Pb-Free(SnAgCu)Assembly			Einheit Unit
		Minimum	Recommendation	Maximum	
Ramp-up Rate to Preheat 25°C to 150°C	-	-	2	3	K/s
Time ts T <sub>Smin</sub> to T <sub>Smax</sub>	ts	60	100	120	s
Ramp-up Rate to Peak T <sub>Smax</sub> to T <sub>p</sub>	-	-	2	3	K/s
Liquidus Temperature	T <sub>L</sub>	217			°C
Time above Liquidus temperature	t <sub>L</sub>	-	80	100	s
Peak Temperature	T <sub>p</sub>	-	245	260	°C
Time within 5°C of the specified peak temperature T <sub>p</sub> -5 K	t <sub>p</sub>	10	20	30	s
Ramp-down Rate T <sub>p</sub> to 100°C	-	-	3	6	K/s
Time 25°C to T <sub>p</sub>	-	-	-	480	-

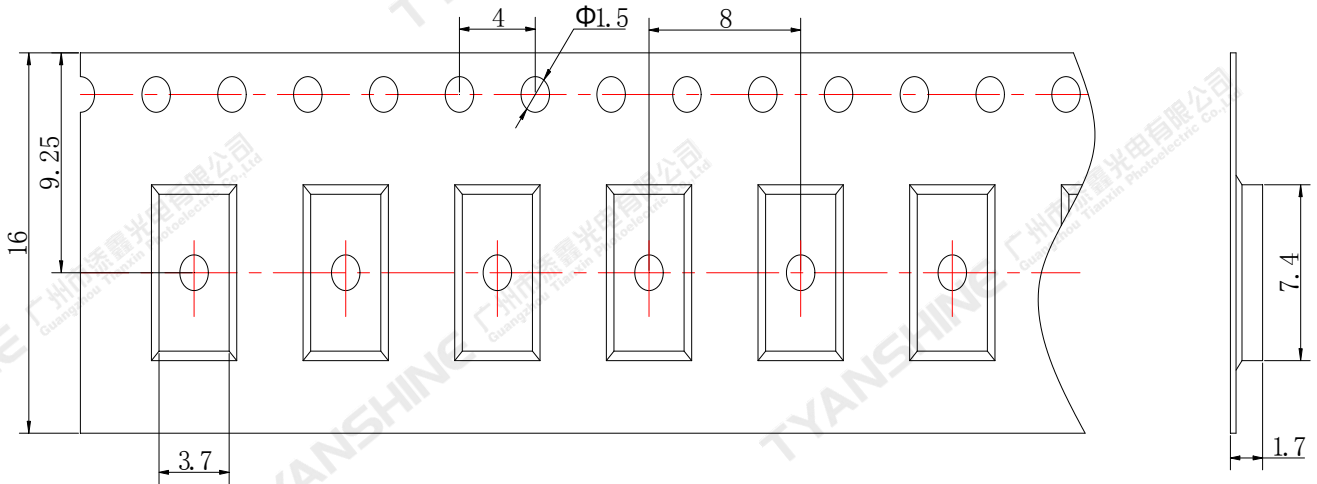
#### Note:

All temperatures refer to topside of the package, measured on the package body surface.



**Dimensions For Cannulation And Packaging**

**Quantity: 3000PCS**



**Notes:**

1. All dimensions are in millimeters.
2. Tolerances are  $\pm 2.0$  mm unless otherwise noted.
3. The products are packaged together with silica gel, Transport, not to the weight of welding LED light-emitting area, As a result of the weight of LED light-emitting zone in the quality of, Irresponsible of the Company.

Part No.	TX-1860W12FC120-NUFEZW-B04D	Spec No.		Page	9 of 9
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