

TOSHIBA InGaA℘ LED

# TLRH17TP(F),TLRMH17TP(F),TLSH17TP(F), TLOH17TP(F),TLYH17TP(F)

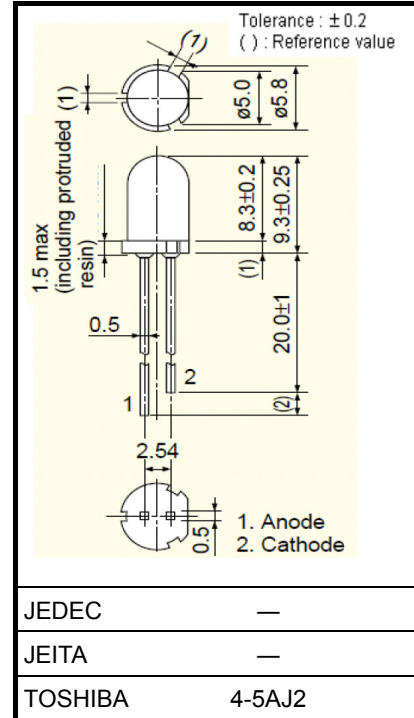
## Panel Circuit Indicator

Unit: mm

- $\phi$  5 mm package
- InGaA℘ technology
- Transparent lens
- Lineup: 3colors (red, orange, yellow)
- High intensity light emission
- Excellent low current light output
- Applications: Various types of information panels, backlightings, etc.
- Stopper lead type is also available  
TLRH17T(F), TLRMH17T(F), TLSH17T(F), TLOH17T(F), TLYH17T(F)

## Lineup

Product Name	Color	Material
TLRH17TP(F)	Red	InGaA℘
TLRMH17TP(F)		
TLSH17TP(F)		
TLOH17TP(F)	Orange	
TLYH17TP(F)	Yellow	



## Absolute Maximum Ratings (Ta = 25°C)

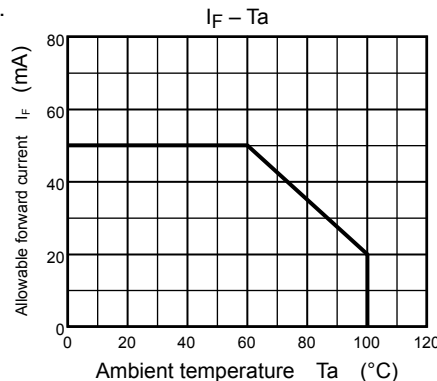
Weight: 0.31 g (Typ.)

Product Name	Forward Current I <sub>F</sub> (mA)	Reverse Voltage V <sub>R</sub> (V)	Power Dissipation P <sub>D</sub> (mW)	Operating Temperature T <sub>opr</sub> (°C)	Storage Temperature T <sub>stg</sub> (°C)
TLRH17TP(F)	50	4	120	-40 to 100	-40 to 120
TLRMH17TP(F)					
TLSH17TP(F)					
TLOH17TP(F)					
TLYH17TP(F)					

Note: Using continuously under heavy loads (e.g. the application of high temperature/current/voltage and the significant change in temperature, etc.) may cause this product to decrease in the reliability significantly even if the operating conditions (i.e. operating temperature/current/voltage, etc.) are within the absolute maximum ratings.

Please design the appropriate reliability upon reviewing the Toshiba Semiconductor Reliability Handbook (“Handling Precautions”/“Derating Concept and Methods”) and individual reliability data (i.e. reliability test report and estimated failure rate, etc).

Note 1: Forward current derating



**Electrical and Optical Characteristics (Ta = 25°C)**

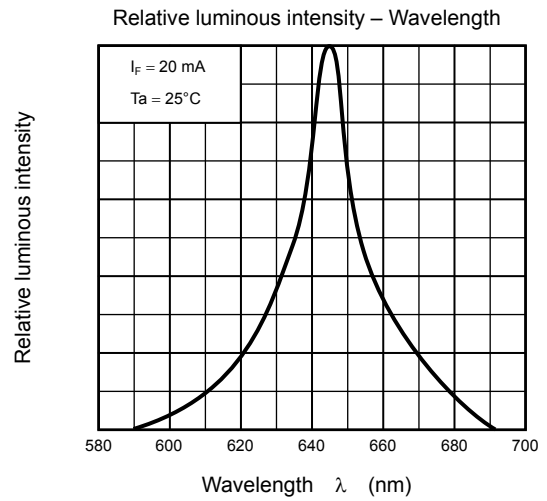
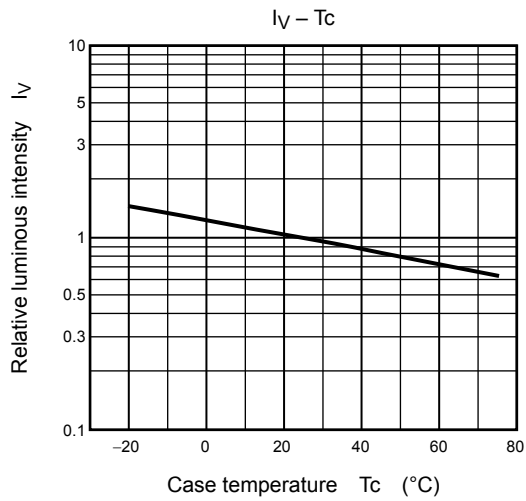
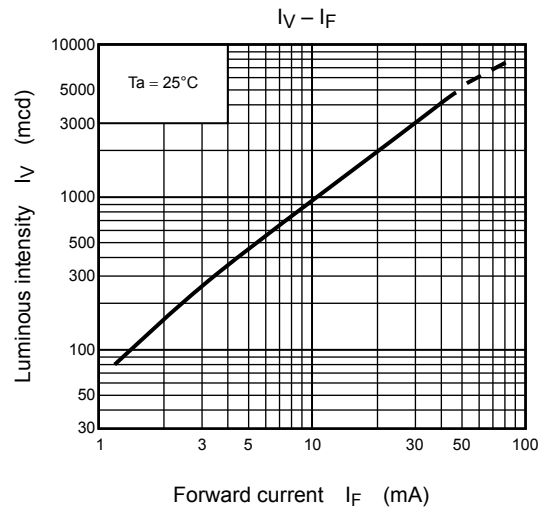
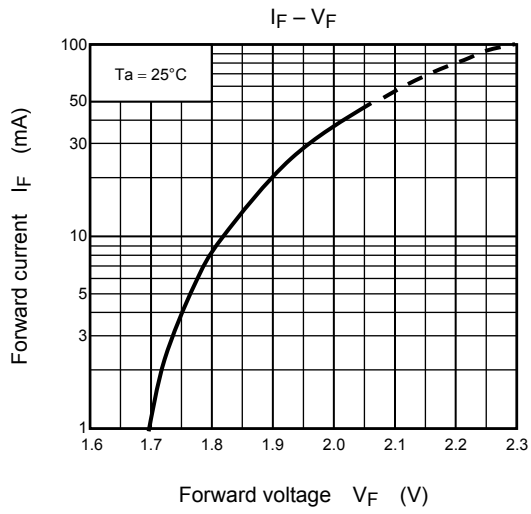
Product Name	Emission Wavelength						Luminous Intensity I <sub>v</sub>			Forward Voltage V <sub>F</sub>			Reverse Current I <sub>R</sub>	
	λ <sub>d</sub>			λ <sub>P</sub>	Δλ	I <sub>F</sub>	Min	Typ.	I <sub>F</sub>	Typ.	Max	I <sub>F</sub>	Max	V <sub>R</sub>
	Min	Typ.	Max	Typ.	Typ.									
TLRH17TP(F)	—	630	—	644	13	20	850	2000	20	1.9	2.4	20	50	4
TLRMH17TP(F)	—	626	—	636	13	20	850	3200	20	1.9	2.4	20	50	4
TLSH17TP(F)	—	613	—	623	13	20	1530	4500	20	2.0	2.4	20	50	4
TLOH17TP(F)	—	605	—	612	13	20	1530	5000	20	2.0	2.4	20	50	4
TLYH17TP(F)	581	587	595	590	13	20	1530	4800	20	2.0	2.4	20	50	4
Unit	nm					mA	mcd		mA	V		mA	μA	V

**Precautions**

Please be careful of the following:

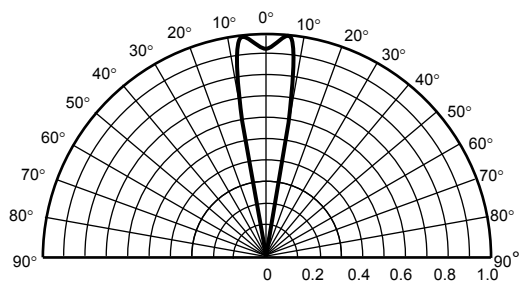
- Soldering temperature: 260°C max, soldering time: 3 s max  
(Soldering portion of lead: up to 1.6 mm from the body of the device)
- If the lead is formed, the lead should be formed up to up to 1.6 mm from the body of the device without forming stress to the resin. Soldering should be performed after lead forming.
- This visible LED lamp also emits some IR light.  
If a photodetector is located near the LED lamp, please ensure that it will not be affected by this IR light.

## TLRH17TP(F)

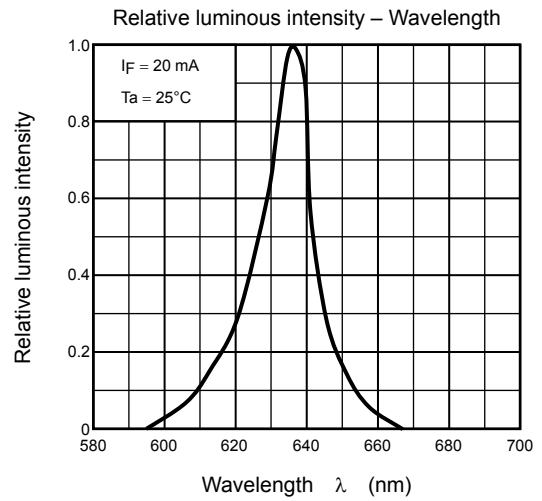
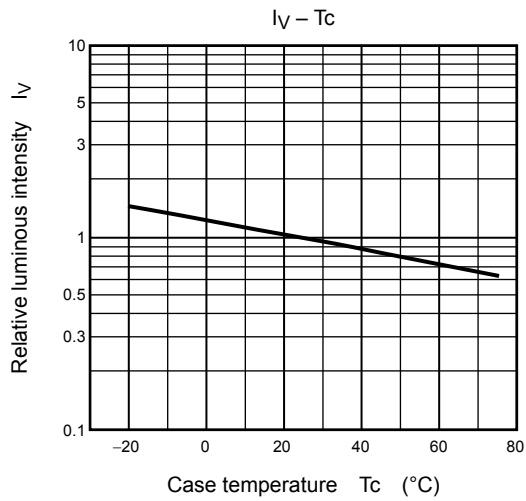
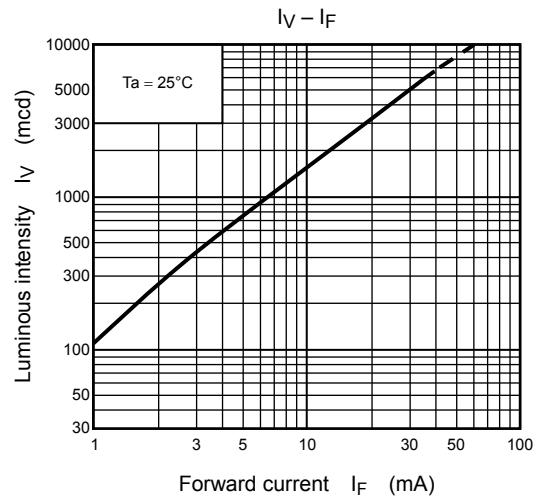
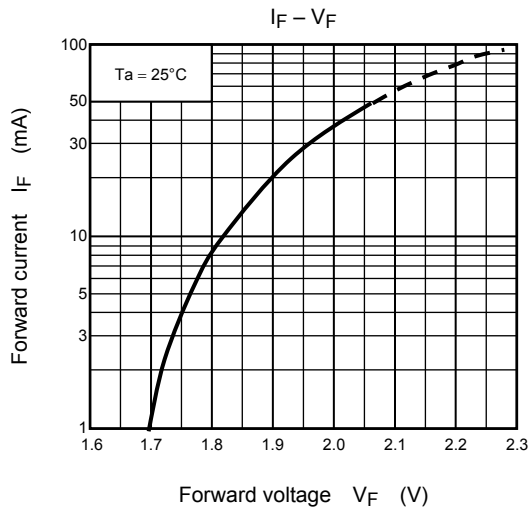


### Radiation pattern

$T_a = 25^\circ\text{C}$

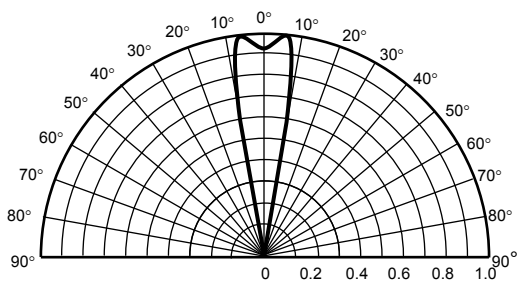


## TLRMH17TP(F)

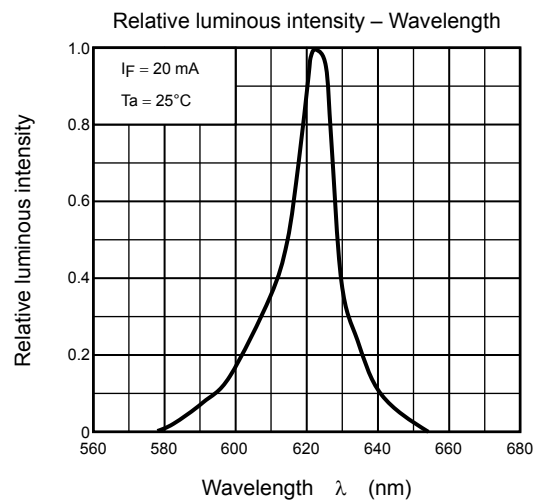
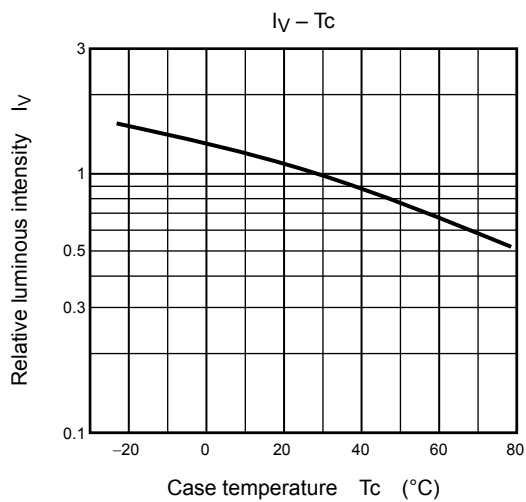
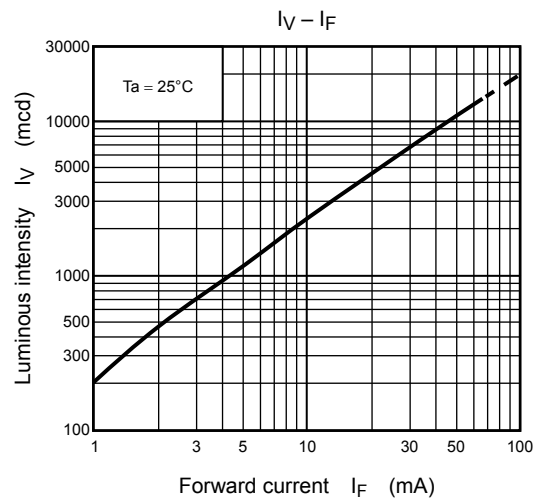
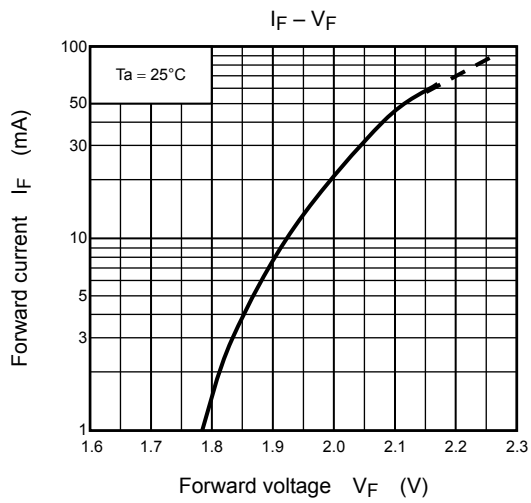


### Radiation pattern

$T_a = 25^\circ\text{C}$

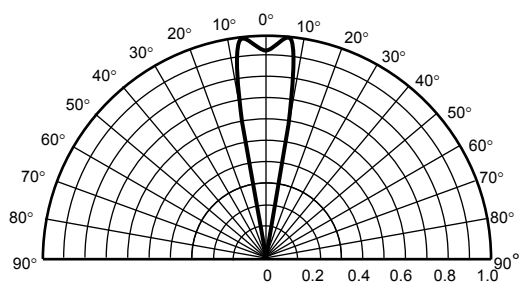


## TLSH17TP(F)

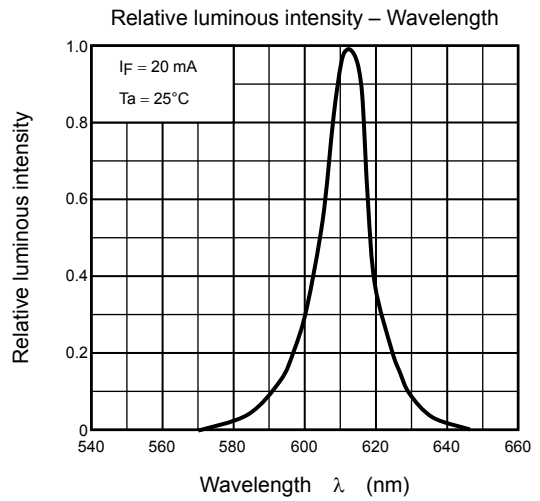
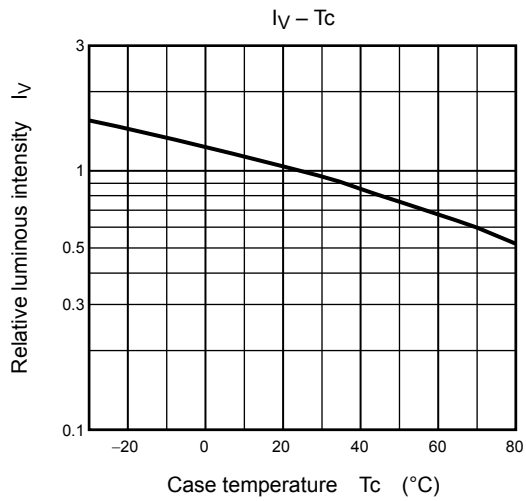
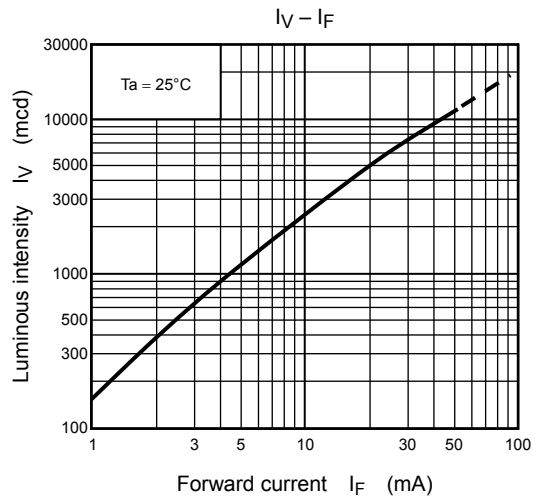
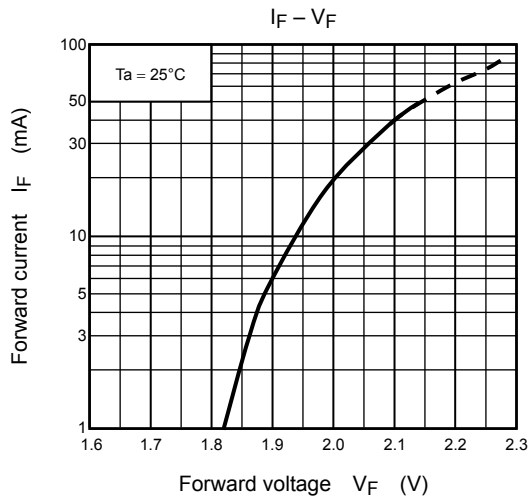


### Radiation pattern

$T_a = 25^\circ\text{C}$

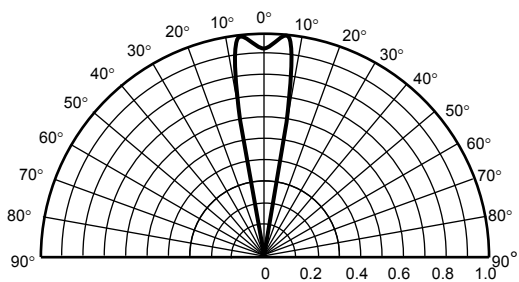


**TLOH17TP(F)**

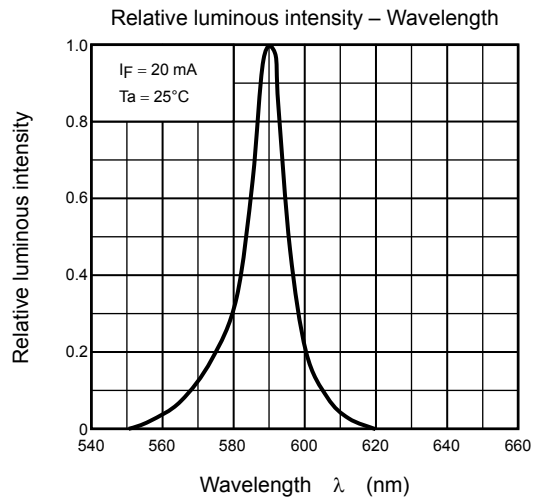
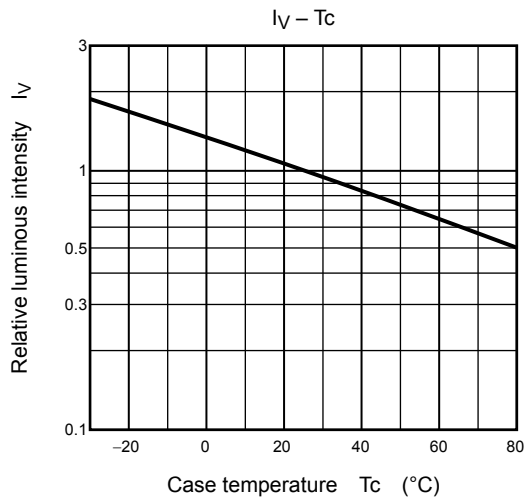
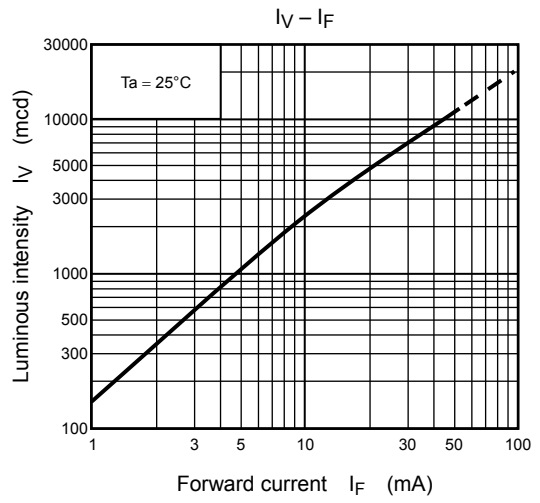
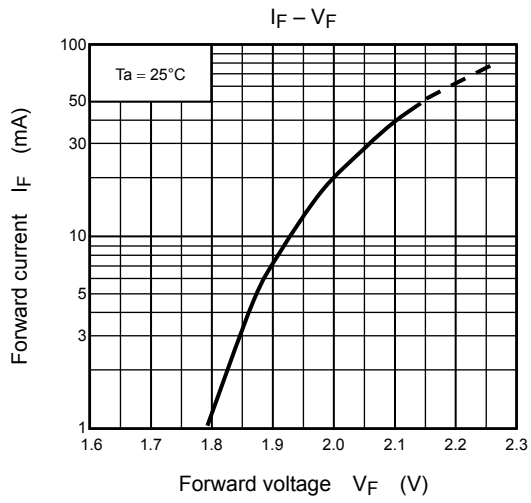


Radiation pattern

$T_a = 25^\circ\text{C}$

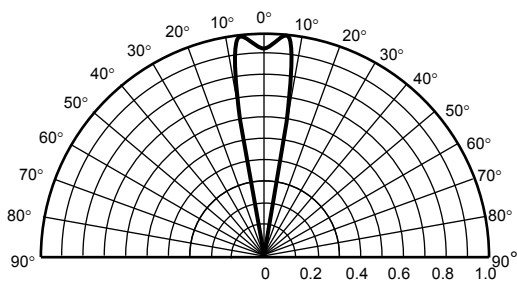


**TLYH17TP(F)**



Radiation pattern

$T_a = 25^\circ\text{C}$



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