

# Fortimo Strip PR LV6

Advance Fortimo LED Strip PR LV6 modules are an ideal choice for high-performance architectural and indoor luminaires. Designed for high efficiency, offered in variable lengths, allowing for daisy chaining, and incorporating tight Vf binning to create a high-quality base for your luminaire designs.

## Key features and benefits

### Features:

- High flux density of up to 2000 lm per foot
- Narrow width of only 20mm
- High lumen maintenance (TM21) of L90 36,000 hours
- 3 SDCM color consistency
- Tight Vf binning enables longer daisy chaining

### Benefits:

- High energy efficacy and long lifetime provide optimized total cost of ownership
- Slim width and Zhaga compliant form factor provide excellent design-in options and assembly
- High quality and warm color temperatures of light enables new application areas like hospitality
- 5-year limited system warranty with Advance Xitanium LED drivers
- Specifications enable DLC Premium category

### Application:

- Retail
- Hospitality
- Office

## Ordering data

| Commercial product name           | 12NC           | Box quantity |
|-----------------------------------|----------------|--------------|
| FO Strip PR 47.5in 4400lm 830 LV6 | 9290 027 55713 | 120          |
| FO Strip PR 47.5in 4400lm 835 LV6 | 9290 027 55813 | 120          |
| FO Strip PR 47.5in 4400lm 840 LV6 | 9290 027 55913 | 120          |
| FO Strip PR 47.5in 4400lm 850 LV6 | 9290 027 56013 | 120          |

## Drive currents

| Parameter                         | Nominal* | Life** | Max*** | Unit |
|-----------------------------------|----------|--------|--------|------|
| FO Strip PR 47.5in 4400lm 8xx LV6 | 616      | 1440   | 1600   | mA   |

## Module temperatures

| Parameter                                                 | Nominal* | Life** | Max*** | Unit |
|-----------------------------------------------------------|----------|--------|--------|------|
| T <sub>c</sub> (case temperature at T <sub>c</sub> point) | 45       | 85     | 90     | °C   |

\* Nominal value at which typical performance is specified

\*\* Value at which life time is specified

\*\*\* Maximum value for safe operation, do not operate above this value

## Suggested maximum current at elevated ambient

| Setting                    | 1    | 2    | 3   | 4   | Unit |
|----------------------------|------|------|-----|-----|------|
| Luminaire maximum ambient  | 35   | 45   | 55  | 65  | °C   |
| Suggested maximum current* | 1440 | 1245 | 985 | 725 | mA   |

\* Drive current that may be possible at the reference external ambient temperature. The maximum suggested current given is for a typical non-lensed luminaire design with good thermal transfer capability. Use of a lensed luminaire or luminaires with non-optimal thermal characteristics will require a further current reduction to meet the same maximum ambient temperature. The current suggestion is based on the module T<sub>c</sub>-life and thermal testing must be used to verify T<sub>c</sub>-life is never exceeded for your specific luminaire. It may be necessary to adjust the final current value in order to meet the T<sub>c</sub>-life rating of the module.

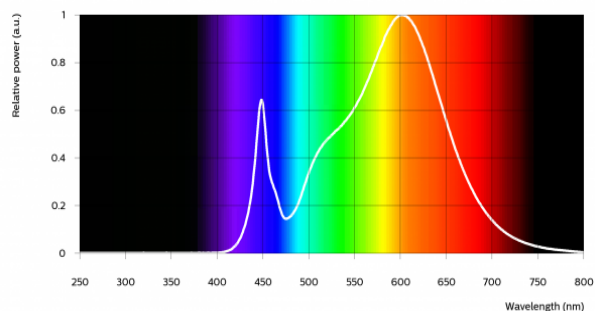
## Optical characteristics – table per color (CCT)

### FO Strip PR 47.5in 4400lm 830 LV6

| Parameter                          | Min  | Typ  | Max  | Unit |
|------------------------------------|------|------|------|------|
| Luminous flux                      | 3920 | 4240 | 4560 | lm   |
| Efficacy                           | 162  | 181  |      | lm/W |
| Correlated color temperature (CCT) |      | 3000 |      | K    |
| Color consistency                  |      |      | 3    | SDCM |
| CRI                                | 80   |      |      |      |
| R9                                 | 0    |      |      |      |

Measurement precision  $\pm 5\%$  for the flux data and  $\pm 6\%$  for the efficacy data. Measurement precision for color coordinates  $\pm 0.005$ . Measurement precision for CRI  $\pm 1.5$  and R9  $\pm 3$ .

| Operation point | 830           | lm   | lm/W |
|-----------------|---------------|------|------|
| 80% I-nom 493mA | Tc 25 °C      | 3520 | 188  |
|                 | Tc-nom 45 °C  | 3430 | 185  |
|                 | Tc-life 85 °C | 3220 | 176  |
| I-nom 616mA     | Tc 25 °C      | 4350 | 184  |
|                 | Tc-nom 45 °C  | 4240 | 181  |
|                 | Tc-life 85 °C | 3980 | 173  |
| I-life 1440mA   | Tc 25 °C      | 9520 | 165  |
|                 | Tc-nom 45 °C  | 9270 | 162  |
|                 | Tc-life 85 °C | 8680 | 154  |

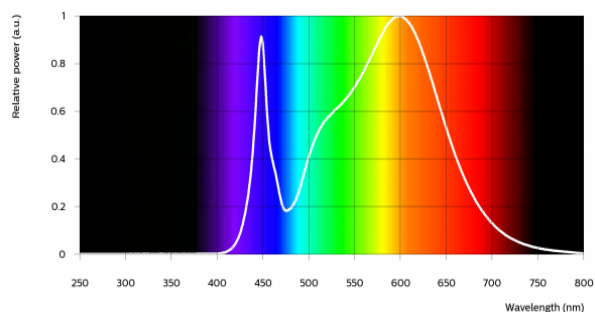


### FO Strip PR 47.5in 4400lm 835 LV6

| Parameter                          | Min  | Typ  | Max  | Unit |
|------------------------------------|------|------|------|------|
| Luminous flux                      | 4030 | 4360 | 4690 | lm   |
| Efficacy                           | 167  | 186  |      | lm/W |
| Correlated color temperature (CCT) |      | 3500 |      | K    |
| Color consistency                  |      |      | 3    | SDCM |
| CRI                                | 80   |      |      |      |
| R9                                 | 0    |      |      |      |

Measurement precision  $\pm 5\%$  for the flux data and  $\pm 6\%$  for the efficacy data. Measurement precision for color coordinates  $\pm 0.005$ . Measurement precision for CRI  $\pm 1.5$  and R9  $\pm 3$ .

| Operation point | 835           | lm   | lm/W |
|-----------------|---------------|------|------|
| 80% I-nom 493mA | Tc 25 °C      | 3620 | 194  |
|                 | Tc-nom 45 °C  | 3530 | 190  |
|                 | Tc-life 85 °C | 3310 | 181  |
| I-nom 616mA     | Tc 25 °C      | 4480 | 190  |
|                 | Tc-nom 45 °C  | 4360 | 186  |
|                 | Tc-life 85 °C | 4090 | 177  |
| I-life 1440mA   | Tc 25 °C      | 9830 | 170  |
|                 | Tc-nom 45 °C  | 9560 | 166  |
|                 | Tc-life 85 °C | 8950 | 158  |

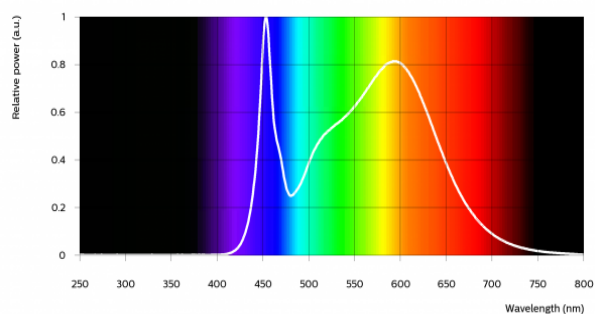


## FO Strip PR 47.5in 4400lm 840 LV6

| Parameter                          | Min  | Typ  | Max  | Unit |
|------------------------------------|------|------|------|------|
| Luminous flux                      | 4150 | 4490 | 4830 | lm   |
| Efficacy                           | 172  | 192  |      | lm/W |
| Correlated color temperature (CCT) |      | 4000 |      | K    |
| Color consistency                  |      |      | 3    | SDCM |
| CRI                                | 80   |      |      |      |
| R9                                 | 0    |      |      |      |

Measurement precision  $\pm 5\%$  for the flux data and  $\pm 6\%$  for the efficacy data. Measurement precision for color coordinates  $\pm 0.005$ . Measurement precision for CRI  $\pm 1.5$  and R9  $\pm 3$ .

| Operation point | 840           | lm    | lm/W |
|-----------------|---------------|-------|------|
| 80% I-nom 493mA | Tc 25 °C      | 3730  | 200  |
|                 | Tc-nom 45 °C  | 3630  | 196  |
|                 | Tc-life 85 °C | 3410  | 186  |
| I-nom 616mA     | Tc 25 °C      | 4610  | 196  |
|                 | Tc-nom 45 °C  | 4490  | 192  |
|                 | Tc-life 85 °C | 4210  | 183  |
| I-life 1440mA   | Tc 25 °C      | 10120 | 175  |
|                 | Tc-nom 45 °C  | 9850  | 171  |
|                 | Tc-life 85 °C | 9220  | 163  |

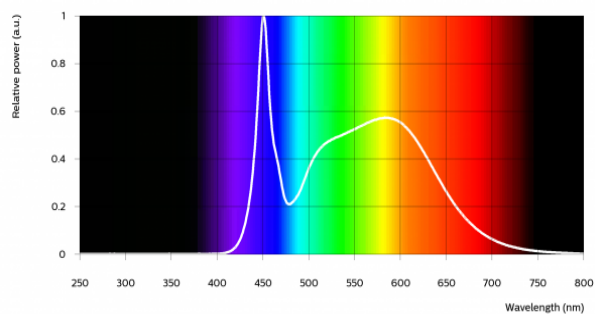


## FO Strip PR 47.5in 4400lm 850 LV6

| Parameter                          | Min  | Typ  | Max  | Unit |
|------------------------------------|------|------|------|------|
| Luminous flux                      | 4160 | 4500 | 4840 | lm   |
| Efficacy                           | 172  | 192  |      | lm/W |
| Correlated color temperature (CCT) |      | 5000 |      | K    |
| Color consistency                  |      |      | 3    | SDCM |
| CRI                                | 80   |      |      |      |
| R9                                 | 0    |      |      |      |

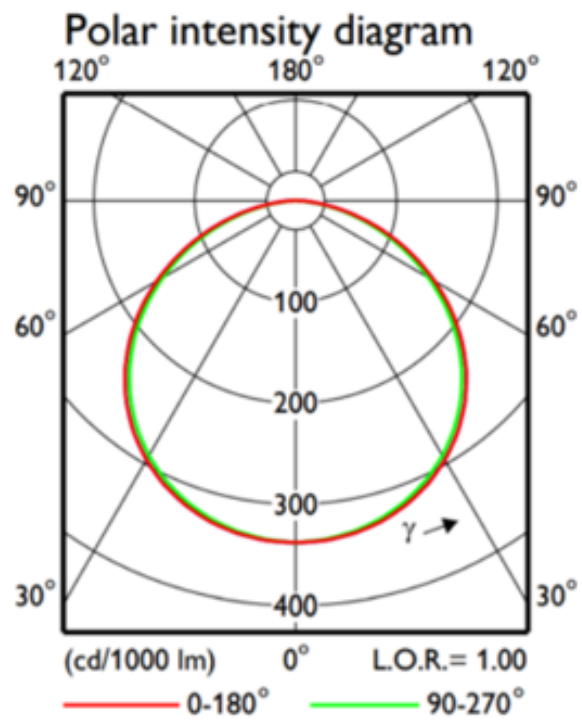
Measurement precision  $\pm 5\%$  for the flux data and  $\pm 6\%$  for the efficacy data. Measurement precision for color coordinates  $\pm 0.005$ . Measurement precision for CRI  $\pm 1.5$  and R9  $\pm 3$ .

| Operation point | 850           | lm    | lm/W |
|-----------------|---------------|-------|------|
| 80% I-nom 493mA | Tc 25 °C      | 3730  | 199  |
|                 | Tc-nom 45 °C  | 3640  | 196  |
|                 | Tc-life 85 °C | 3410  | 187  |
| I-nom 616mA     | Tc 25 °C      | 4610  | 196  |
|                 | Tc-nom 45 °C  | 4500  | 192  |
|                 | Tc-life 85 °C | 4220  | 183  |
| I-life 1440mA   | Tc 25 °C      | 10180 | 176  |
|                 | Tc-nom 45 °C  | 9920  | 173  |
|                 | Tc-life 85 °C | 9270  | 164  |



## Beam shape

The LED module has a Lambertian light distribution.



## Electrical characteristics

| Parameter                             | Min  | Typ  | Max  | Unit |
|---------------------------------------|------|------|------|------|
| Forward voltage                       | 37.5 | 38.0 | 38.5 | V    |
| Power consumption                     |      | 23.4 |      | W    |
| Number of modules in series per chain |      |      | 1    |      |

Measurement precision for Vf +/- 3%. Measurement precision for power +/- 3.3%.

## System chain limits for Same Length modules

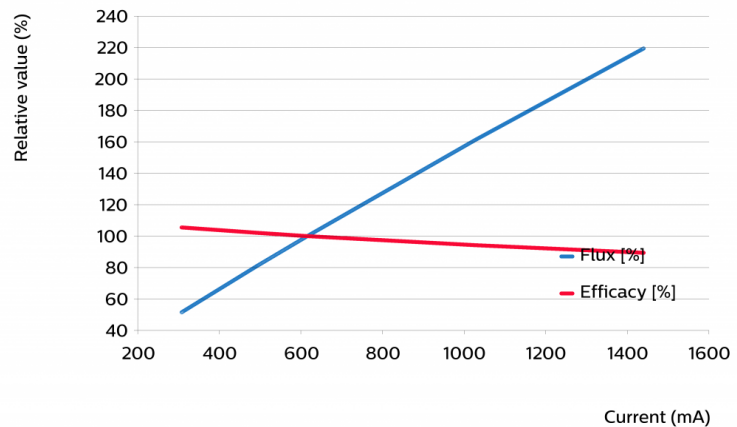
| Total length (in) | Total current limit (mA) |
|-------------------|--------------------------|
| 96                | 1540                     |
| 120               | 1250                     |
| 192               | 780                      |

Please review the design-in guide or contact the Design-in team for further information.

## Tuning information

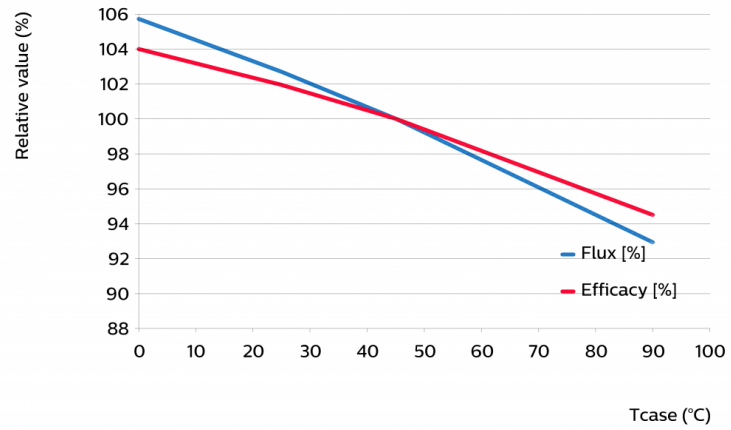
Flux and efficacy versus current (at Tc nominal)

| I [mA] | Flux [%] | Efficacy [%] |
|--------|----------|--------------|
| 1440   | 219      | 89           |
| 1028   | 161      | 94           |
| 616    | 100      | 100          |
| 493    | 81       | 102          |
| 308    | 51       | 105          |



## Flux and efficacy versus temperature at Tc (at I nominal)

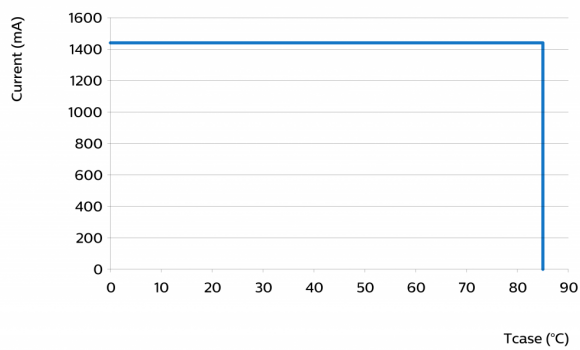
| Tc [°C] | Flux [%] | Efficacy [%] |
|---------|----------|--------------|
| 90      | 93       | 94           |
| 45      | 100      | 100          |
| 25      | 103      | 102          |
| 0       | 106      | 104          |



## Lumen maintenance

| Operation point | Lumen maintenance<br>x 1000 hours | L70 | L80 | L90 |
|-----------------|-----------------------------------|-----|-----|-----|
|                 |                                   | B50 | B50 | B50 |
| 80% I-nom 493mA | Ts nom 45°C                       | >60 | >60 | >36 |
|                 | Ts 70°C                           | >60 | >60 | >36 |
|                 | Ts-l-life 85°C                    | >60 | >60 | >36 |
| I-nom 616mA     | Ts nom 45°C                       | >60 | >60 | >36 |
|                 | Ts 70°C                           | >60 | >60 | >36 |
|                 | Ts-l-life 85°C                    | >60 | >60 | >36 |
| I-life 1440mA   | Ts nom 45°C                       | >60 | >60 | >36 |
|                 | Ts 70°C                           | >60 | >60 | >36 |
|                 | Ts-l-life 85°C                    | >60 | >60 | >36 |

## Performance Window



### Thermal switching table

Warranted number of full thermal product cycles at 25°C ambient temperature

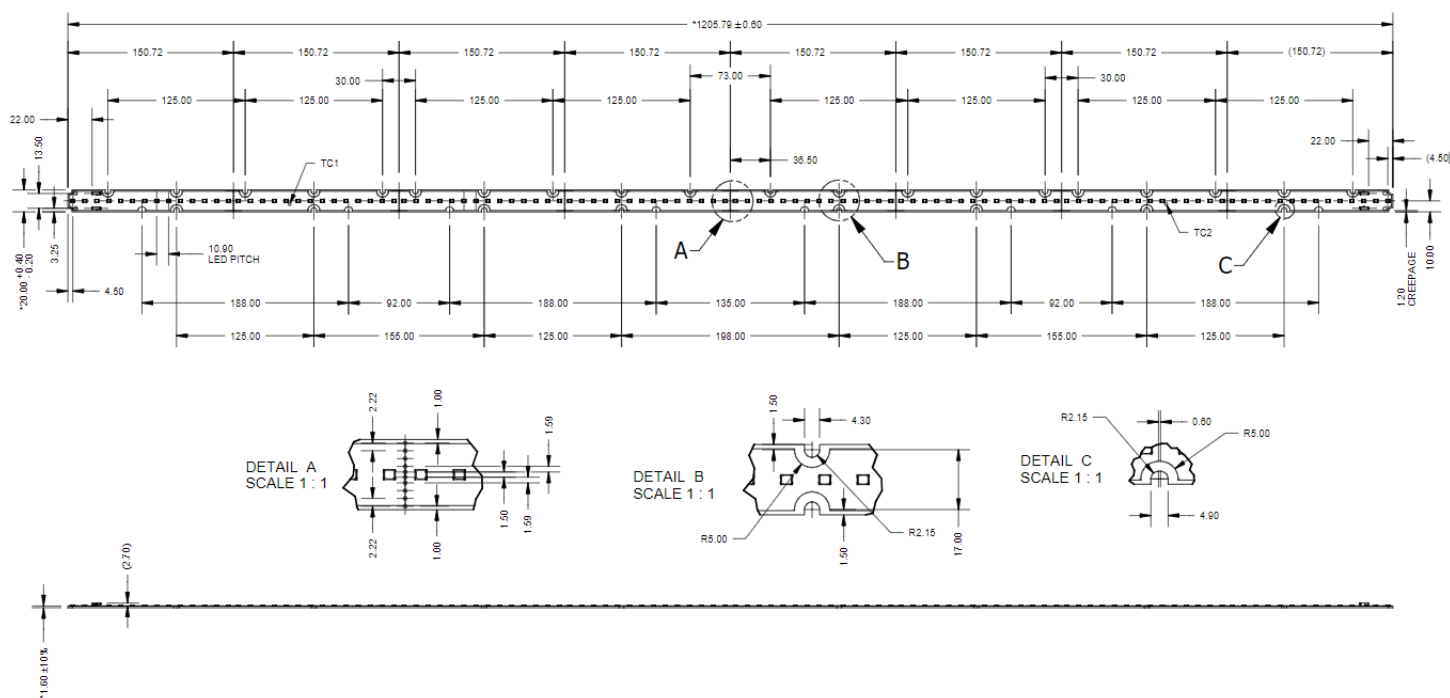
| Case Temperature - Tc [°C] | Amount of Cycles |
|----------------------------|------------------|
| 45 (or less)               | >100,000         |
| 55                         | >100,000         |
| 65                         | >100,000         |
| 75                         | 77,000           |
| 85                         | 38,000           |
| 90                         | 26,000           |

## Wiring

| Specification item       | Value       | Unit            | Condition       |
|--------------------------|-------------|-----------------|-----------------|
| Input wire cross-section | 0.25...0.75 | mm <sup>2</sup> | solid, stranded |
|                          | 18...24     | AWG             | solid, stranded |
| Input wire strip length  | 7.5...9.5   | mm              |                 |

## Mechanical characteristics

| Parameter            | Min     | Typ     | Max     | Unit |
|----------------------|---------|---------|---------|------|
| Length               | 1205.29 | 1205.79 | 1206.29 | mm   |
| Width                | 19.8    | 20      | 20.2    | mm   |
| Height PCB           | 1.4     | 1.6     | 1.8     | mm   |
| Height total         |         | 4.3     |         | mm   |
| Warpage (IPC-TM-650) |         |         | 0.75    | %    |





## Absolute ratings

| Parameter                              | Min | Max  | Unit            |
|----------------------------------------|-----|------|-----------------|
| Current through the LED module (I-max) |     | 1600 | mA              |
| Case temperature (Tc-max)              |     | 90   | °C              |
| ESD (direct contact)                   | 8   |      | kV              |
| Working voltage                        |     | 60   | V <sub>dc</sub> |
| Ambient temperature                    | -40 |      | °C              |

Surge protection of the module must be provided by the driver or other components. Advance Xitanium and Certadrive drivers have built in protection circuitry and will protect the module up to the specified driver surge rating. When using third party drivers testing or confirmation from manufacturer is suggested to ensure adequate module protection.

## Application information

### Certificates and Standards

UL 8750

### Environmental

RoHS/REACH

### Application

|                        |               |
|------------------------|---------------|
| IP rating              | No IP rating  |
| Overheating protection | No protection |
| Luminaire class ANSI   | UL Class 2    |
| Dimming                | Yes           |

There cannot be any ice/fog/mist on any part of the module surface during the application at -40°C.

## Notes

View limited warranty at [www.signify.com/warranties](http://www.signify.com/warranties) for details and restrictions.



© 2021 Signify Holding. All rights reserved. This document may be subject to change. No representation or warranty as to the accuracy or completeness of the information included herein is given and any liability for any action in reliance thereon is disclaimed. All trademarks are owned by Signify Holding or their respective owners.

Signify North America Corporation  
200 Franklin Square Drive,  
Somerset, NJ 08873  
Telephone 855-486-2216

Signify Canada Ltd.  
281 Hillmount Road,  
Markham, ON  
Canada L6C 2S3  
Telephone 800-668-9008