

ADVANCE

by  Signify

LED Modules

Fortimo LED Strip VO LV3

44in 2700lm



Fortimo LED Strip VO

44in 2700lm 8xx LV3

Fortimo LED Strip VO LV3

Key features and benefits

- Energy efficacy up to 175 lm/W (Tc 45°C).
- Lumen per foot varies per module type.
- 3 SDCM color consistency
- CRI80 color rendering
- 50,000 hrs lifetime
- Push-in connectors
- Mechanical footprint compatible with LED strip product family and Zhaga

Ordering data

| Commercial product name | 12NC | Box quantity |
|--|----------------|--------------|
| Fortimo LED Strip VO 44in 2700lm 830 LV3 | 9290 027 22713 | 120 |
| Fortimo LED Strip VO 44in 2700lm 835 LV3 | 9290 027 22813 | 120 |
| Fortimo LED Strip VO 44in 2700lm 840 LV3 | 9290 027 22913 | 120 |
| Fortimo LED Strip VO 44in 2700lm 850 LV3 | 9290 027 23013 | 120 |

October 2020

Drive currents

| Parameter | Nominal* | Life** | Max*** | Unit |
|--------------------------------------|----------|--------|--------|------|
| Fortimo LED Strip VO LV3 44in 2700lm | 400 | 675 | 700 | mA |

Module temperatures

| Parameter | Nominal* | Life** | Max*** | Unit |
|---|----------|--------|--------|------|
| T _c (case temperature at T _c point) | 45 | 80 | 85 | °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

PRELIMINARY

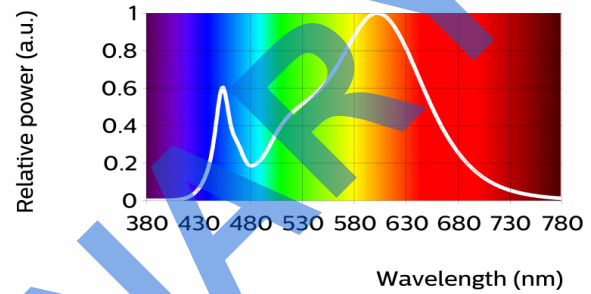
Optical characteristics - table per color (CCT)

Fortimo LED Strip VO 44in 2700lm 830 LV3

| Parameter | Min | Typ | Max | Unit |
|------------------------------------|------|------|------|------|
| Luminous flux | 2350 | 2540 | 2730 | lm |
| Module efficacy | 148 | 165 | | lm/W |
| Correlated color temperature (CCT) | | 3000 | | K |
| Color consistency | | | 3 | SDCM |
| CRI | 80 | | | |

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

| Operation point | 830 | lm | lm/W |
|-----------------|---------------|------|------|
| 80% I-nom 320mA | Tc 25 °C | 2130 | 175 |
| | Tc-nom 45 °C | 2070 | 172 |
| | Tc-life 80 °C | 1960 | 166 |
| I-nom 400mA | Tc 25 °C | 2620 | 168 |
| | Tc-nom 45 °C | 2540 | 165 |
| | Tc-life 80 °C | 2400 | 159 |
| I-life 675mA | Tc 25 °C | 4150 | 148 |
| | Tc-nom 45 °C | 4020 | 145 |
| | Tc-life 80 °C | 3780 | 139 |



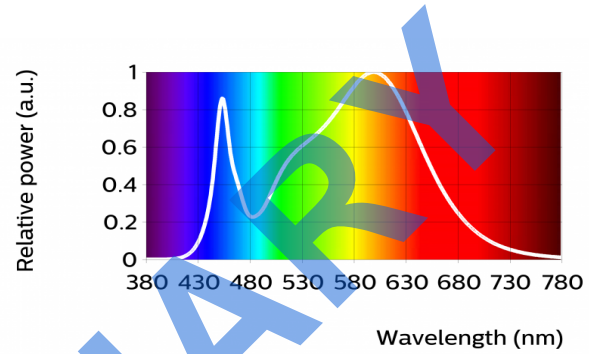
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Fortimo LED Strip VO 44in 2700lm 835 LV3

| Parameter | Min | Typ | Max | Unit |
|------------------------------------|------|------|------|------|
| Luminous flux | 2450 | 2650 | 2850 | lm |
| Module efficacy | 155 | 172 | | lm/W |
| Correlated color temperature (CCT) | | 3500 | | K |
| Color consistency | | | 3 | SDCM |
| CRI | 80 | | | |

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

| Operation point | 835 | lm | lm/W |
|-----------------|---------------|------|------|
| 80% I-nom 320mA | Tc 25 °C | 2230 | 183 |
| | Tc-nom 45 °C | 2160 | 180 |
| | Tc-life 80 °C | 2040 | 174 |
| I-nom 400mA | Tc 25 °C | 2730 | 175 |
| | Tc-nom 45 °C | 2650 | 172 |
| | Tc-life 80 °C | 2500 | 166 |
| I-life 675mA | Tc 25 °C | 4320 | 154 |
| | Tc-nom 45 °C | 4190 | 151 |
| | Tc-life 80 °C | 3950 | 145 |



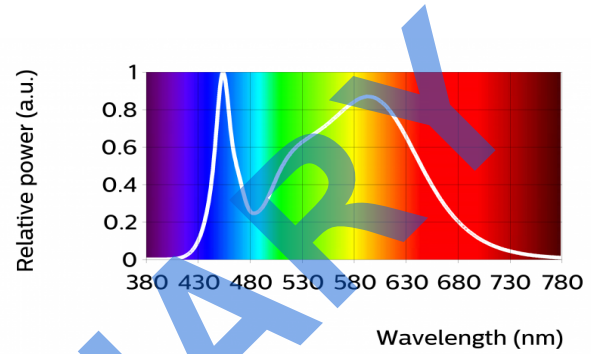
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Fortimo LED Strip VO 44in 2700lm 840 LV3

| Parameter | Min | Typ | Max | Unit |
|------------------------------------|------|------|------|------|
| Luminous flux | 2500 | 2700 | 2900 | lm |
| Module efficacy | 157 | 175 | | lm/W |
| Correlated color temperature (CCT) | | 4000 | | K |
| Color consistency | | | 3 | SDCM |
| CRI | 80 | | | |

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

| Operation point | 840 | lm | lm/W |
|-----------------|---------------|------|------|
| 80% I-nom 320mA | Tc 25 °C | 2270 | 186 |
| | Tc-nom 45 °C | 2200 | 183 |
| | Tc-life 80 °C | 2080 | 177 |
| I-nom 400mA | Tc 25 °C | 2780 | 178 |
| | Tc-nom 45 °C | 2700 | 175 |
| | Tc-life 80 °C | 2550 | 169 |
| I-life 675mA | Tc 25 °C | 4410 | 157 |
| | Tc-nom 45 °C | 4270 | 154 |
| | Tc-life 80 °C | 4020 | 148 |



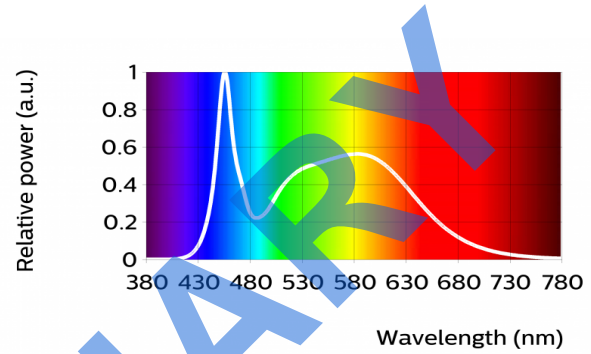
PRELIMINARY

Fortimo LED Strip VO 44in 2700lm 850 LV3

| Parameter | Min | Typ | Max | Unit |
|------------------------------------|------|------|------|------|
| Luminous flux | 2500 | 2700 | 2900 | lm |
| Module efficacy | 157 | 175 | | lm/W |
| Correlated color temperature (CCT) | | 5000 | | K |
| Color consistency | | | 3 | SDCM |
| CRI | 80 | | | |

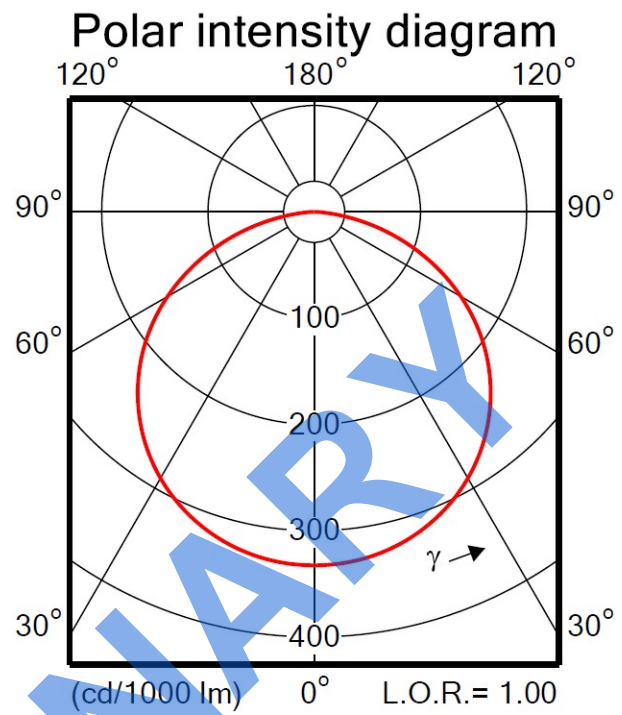
Measurement precision $\pm 5\%$ for the flux data and $\pm 6\%$ for the efficacy data. Measurement precision for color coordinates ± 0.005 . Measurement precision for CRI ± 1.5 and R9 ± 3

| Operation point | 850 | lm | lm/W |
|-----------------|---------------|------|------|
| 80% I-nom 320mA | Tc 25 °C | 2270 | 186 |
| | Tc-nom 45 °C | 2200 | 183 |
| | Tc-life 80 °C | 2080 | 177 |
| I-nom 400mA | Tc 25 °C | 2780 | 178 |
| | Tc-nom 45 °C | 2700 | 175 |
| | Tc-life 80 °C | 2550 | 169 |
| I-life 675mA | Tc 25 °C | 4410 | 157 |
| | Tc-nom 45 °C | 4270 | 154 |
| | Tc-life 80 °C | 4020 | 148 |



Beam shape

The LED-module has a Lambertian light distribution.



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Electrical characteristics

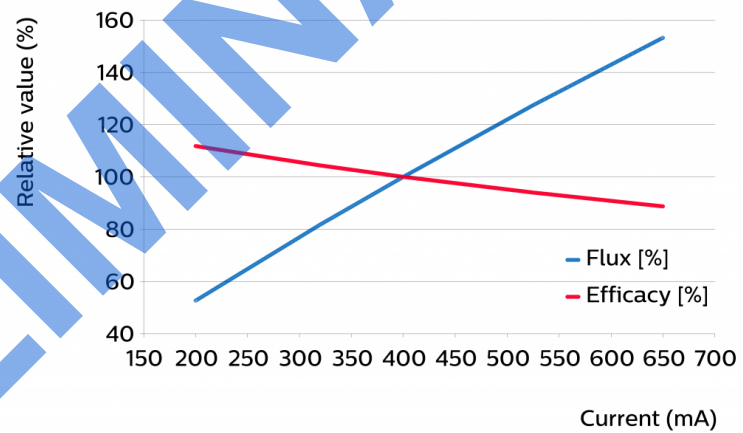
| Parameter | Min | Typ | Max | Unit |
|---------------------------------------|------|------|------|---------------|
| Forward voltage | 37.8 | 38.5 | 42.0 | V |
| Power consumption | 15.1 | 15.4 | 16.8 | W = kWh/1000h |
| Number of modules in series per chain | | | 1 | |

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

Tuning information

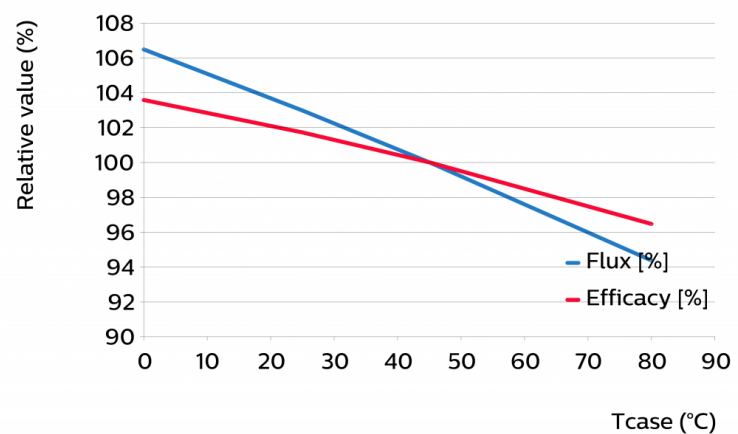
Flux and efficacy versus current (at Tc nominal)

| I [mA] | Flux [%] | Efficacy [%] |
|--------|----------|--------------|
| 650 | 153 | 89 |
| 525 | 127 | 94 |
| 400 | 100 | 100 |
| 320 | 82 | 104 |
| 200 | 53 | 112 |



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

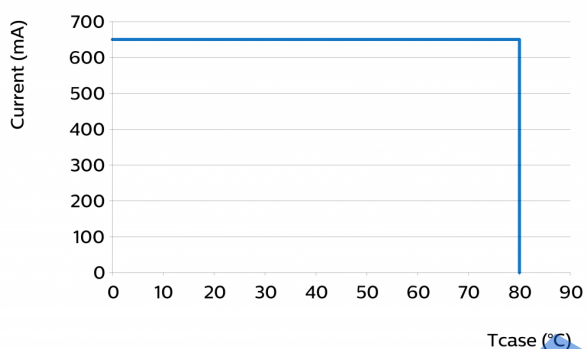
| Tc [°C] | Flux [%] | Efficacy [%] |
|---------|----------|--------------|
| 80 | 94 | 96 |
| 45 | 100 | 100 |
| 25 | 103 | 102 |
| 0 | 106 | 104 |



Lumen maintenance

| Operation point | Lumen maintenance x 1000 hours | L70 | L80 | L90 |
|-----------------|-----------------------------------|-----|-----|-----|
| | | B50 | B50 | B50 |
| 80% I-nom 320mA | Tc nom 45°C | >50 | >50 | 40 |
| | Tc 75°C | >50 | >50 | 35 |
| | Tc-life 80°C | >50 | >50 | 34 |
| I-nom 400 mA | Tc nom 45°C | >50 | >50 | 40 |
| | Tc 75°C | >50 | >50 | 35 |
| | Tc-life 80°C | >50 | >50 | 34 |
| I-life 675 mA | Tc nom 45°C | >50 | >50 | 40 |
| | Tc 75°C | >50 | >50 | 35 |
| | Tc-life 80°C | >50 | >50 | 34 |

Performance Window



Thermal switching table

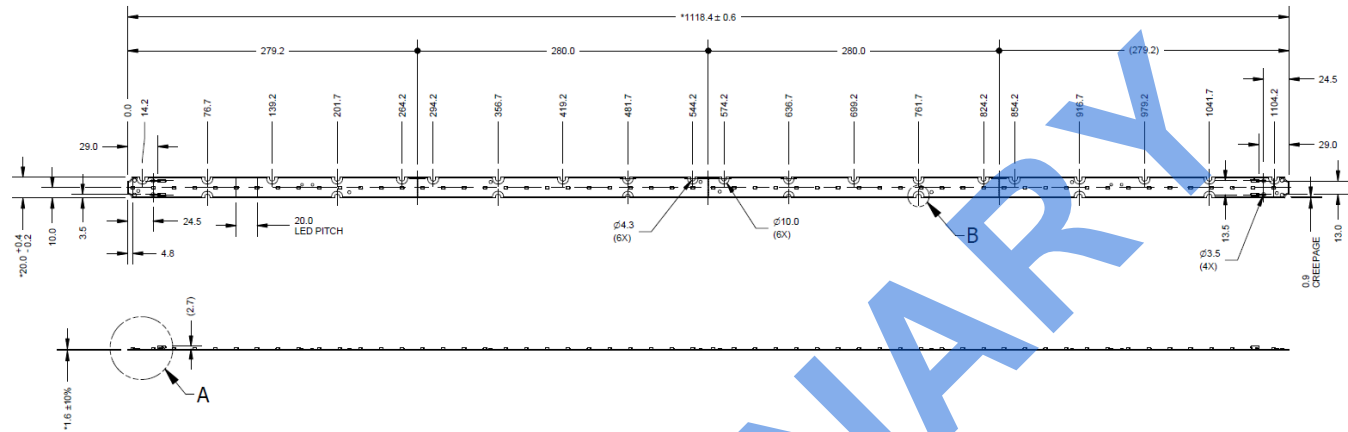
| Case Temperature - Tc [°C] | Amount of Cycles |
|----------------------------|------------------|
| 45 (or less) | >100000 |
| 55 | >100000 |
| 65 | 98000 |
| 75 | 44000 |
| 85 | 22000 |

Wiring

| Specification item | Value | Unit | Condition |
|--------------------------|-------------|-----------------|---------------|
| Input wire cross-section | 0.45...0.7 | mm ² | stranded wire |
| | 20...22 | AWG | stranded wire |
| Input wire strip length | 4.5...5.5 | mm | |
| Input wire cross-section | 0.25...0.75 | mm ² | solid wire |
| | 18...24 | AWG | solid wire |
| Input wire strip length | 4.5...5.5 | mm | |

Mechanical characteristics

| Parameter | Min | Typ | Max | Unit |
|----------------------|--------|--------|------|------|
| Length | 1117.8 | 1118.4 | 1119 | mm |
| Width | 19.8 | 20 | 20.4 | mm |
| Height PCB | 1.4 | 1.6 | 1.8 | mm |
| Height total | | 4.3 | | mm |
| Warpage (IPC-TM-650) | | | 5 | % |



Absolute ratings

| Parameter | Min | Max | Unit |
|--|-----|-----|-----------------|
| Current through the LED module (I-max) | | 700 | mA |
| Case temperature (T _c -max) | | 85 | °C |
| ESD (direct contact) | 1 | | kV |
| Working voltage | | 60 | V _{dc} |

Application information

Certificates and Standards

UL 8750

Environmental

RoHS/REACH

Application

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

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