



A 224lm/w  
high light efficiency module designed for line lights

# HUL-280SA-036024

## LED Moudle Datasheet

The HIGNTEK HUL-280SA-036024 product is a uniquely wide portfolio which can be used in all kind of linear indoor luminaire types. The product uses a high light efficiency UHE-2835 led chip to make the module with ultra-high efficiency and brightness. Its size makes it easy to design and manufacture, and there are multiple sizes available to meet the needs of a wide range of applications, available lengths:70mm/140mm/280mm/560mm.

### FEATURES AND BENEFITS

Efficacy and luminous flux of up to 224lm/W typical and 2031lm available

Available CCT/CRI options: 2700K-6500K(80 & 90 CRI)

Designed to be compatible with standard third party optics

MCPCB for efficient heat dissipation and mechanical robustness

CE, ROHS, ERP compliance

5-year limited guarantee

### PRIMARY APPLICATIONS

Linear Light

Wall lamp

Panel light



# Performance Characteristics

## Product Selection Guide

Table 1. Product performance of HIGNTEK HUL-280SA-036024 (T<sub>p</sub>=25°C)

| NOMINAL CCT | CRI [RA] | CURRENT [mA] | FORWARD VOLTAGE [V] | POWER [W] | LUMINOUS FLUX [lm]     |                        | EFFICACY [lm/W]        |                        |
|-------------|----------|--------------|---------------------|-----------|------------------------|------------------------|------------------------|------------------------|
|             |          |              |                     |           | T <sub>c</sub> = 25° C | T <sub>c</sub> = 45° C | T <sub>c</sub> = 25° C | T <sub>c</sub> = 45° C |
| 3000K       | 80       | 80           | 31.9                | 2.55      | 530                    | 519                    | 208                    | 204                    |
|             | 80       | 140          | 32.4                | 4.54      | 917                    | 899                    | 202                    | 198                    |
|             | 80       | 300          | 33.7                | 10.11     | 1885                   | 1847                   | 186                    | 183                    |
| 4000K       | 80       | 80           | 31.9                | 2.55      | 570                    | 559                    | 224                    | 219                    |
|             | 80       | 140          | 32.4                | 4.54      | 986                    | 966                    | 217                    | 213                    |
|             | 80       | 300          | 33.7                | 10.11     | 2027                   | 1986                   | 200                    | 196                    |
| 6500K       | 80       | 80           | 31.9                | 2.55      | 564                    | 553                    | 221                    | 217                    |
|             | 80       | 140          | 32.4                | 4.54      | 976                    | 956                    | 215                    | 211                    |
|             | 80       | 300          | 33.7                | 10.11     | 2007                   | 1967                   | 199                    | 195                    |
| 3000K       | 90       | 80           | 31.9                | 2.55      | 466                    | 457                    | 183                    | 179                    |
|             | 90       | 140          | 32.4                | 4.54      | 807                    | 791                    | 178                    | 174                    |
|             | 90       | 300          | 33.7                | 10.11     | 1659                   | 1626                   | 164                    | 161                    |
| 4000K       | 90       | 80           | 31.9                | 2.55      | 502                    | 492                    | 197                    | 193                    |
|             | 90       | 140          | 32.4                | 4.54      | 868                    | 851                    | 191                    | 187                    |
|             | 90       | 300          | 33.7                | 10.11     | 1784                   | 1748                   | 176                    | 173                    |
| 6500K       | 90       | 80           | 31.9                | 2.55      | 496                    | 486                    | 195                    | 191                    |
|             | 90       | 140          | 32.4                | 4.54      | 859                    | 842                    | 189                    | 185                    |
|             | 90       | 300          | 33.7                | 10.11     | 1766                   | 1731                   | 175                    | 171                    |

**Notes for Table1:**

1. T<sub>c</sub>: temperature at which performance is specified measured at "T<sub>c</sub> point".
2. HIGNTEK maintains a measurement tolerance of : Luminous flux: ±7 %, CRI: ±3.0,.
3. Measurement tolerance of CCT is ±5%.
4. HUL-280SA-036024 Color temperature (2700K-6500K) is optional.

## Product Code Information

Table 2. Product Code-HUL-280SA-036024-XXX

| CRI [RA] | NOMINAL CCT | PRODUCT CODE         |
|----------|-------------|----------------------|
| 80       | 2700K       | HUL-280SA-036024-278 |
|          | 3000K       | HUL-280SA-036024-308 |
|          | 3500K       | HUL-280SA-036024-358 |
|          | 4000K       | HUL-280SA-036024-408 |
|          | 5000K       | HUL-280SA-036024-508 |
|          | 5700K       | HUL-280SA-036024-578 |
|          | 6500K       | HUL-280SA-036024-658 |
| 90       | 2700K       | HUL-280SA-036024-279 |
|          | 3000K       | HUL-280SA-036024-309 |
|          | 3500K       | HUL-280SA-036024-359 |
|          | 4000K       | HUL-280SA-036024-409 |
|          | 5000K       | HUL-280SA-036024-509 |
|          | 5700K       | HUL-280SA-036024-579 |
|          | 6500K       | HUL-280SA-036024-659 |

## Electrical Characteristics

Table 3. Electrical characteristics for HIGNTEK HUL-280SA-036024

| PARAMETER         | SYMBOL | VALUE |      |      | UNIT | REMARK                            |
|-------------------|--------|-------|------|------|------|-----------------------------------|
|                   |        | MIN.  | TYP. | MAX. |      |                                   |
| Operating Current | $I_F$  | -     | 140  | 700  | mA   | -                                 |
| Operating Voltage | $V_F$  | 31.2  | 32.4 | 33.6 | Vdc  | $I_F = 140 \text{ mA}$            |
| Power Consumption | P      | 4.37  | 4.54 | 4.70 | W    | $T_P = 25 \text{ }^\circ\text{C}$ |

**Notes for Table3:**

1.  $T_c$ : temperature at which performance is specified measured at "Tc point".
2. HIGNTEK maintains a tolerance of  $\pm 0.1\text{V}$  on forward voltage measurements.

# Absolute Maximum Ratings

Table 4. Maximum Operating Specification ( $T_p=25^{\circ}\text{C}$ )

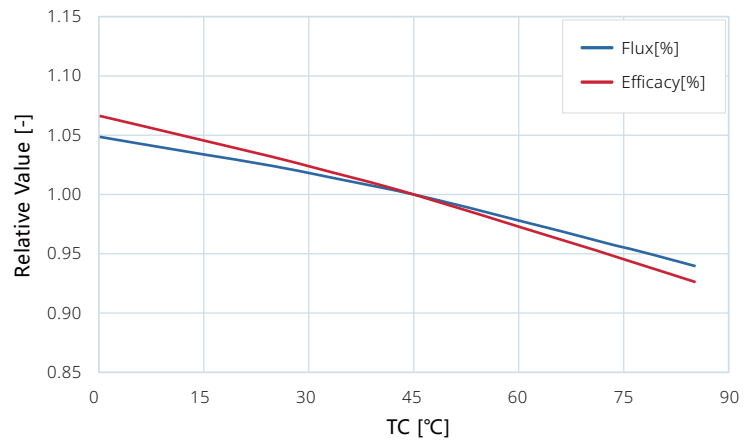
| PART NUMBER          | PARAMETER               | SYMBOL           | UNIT               | RATING                                               |
|----------------------|-------------------------|------------------|--------------------|------------------------------------------------------|
| HUL-280SA-036024-XXX | Power Consumption       | P                | W                  | 24                                                   |
|                      | DC Forward Current      | $I_F$            | mA                 | 700                                                  |
|                      | Operating Temperature   | -                | $^{\circ}\text{C}$ | -40 to 65                                            |
|                      | Storage Temperature     | $T_{\text{Ctg}}$ | $^{\circ}\text{C}$ | -40 to 105                                           |
|                      | ESD Sensitivity         | -                | KV                 | 3                                                    |
|                      | Beam Angle              | $\angle$         | $^{\circ}$         | 120                                                  |
|                      | IP Grade                | -                | -                  | IP20                                                 |
|                      | Maximum Reverse Voltage | $V_{\text{BRM}}$ | V                  | Module are not designed to be driven in reverse bias |

Notes for Table4:

1.  $T_p$ : temperature at which performance is specified measured at " $T_c$  point".

## Characteristics Curves

| $T_c [^{\circ}\text{C}]$ | Flux [%] | Efficacy [%] |
|--------------------------|----------|--------------|
| 85                       | 94       | 93           |
| 65                       | 97       | 96           |
| 45                       | 100      | 100          |
| 25                       | 102      | 103          |
| 0                        | 105      | 107          |


Figure 1. Typical normalized Flux and Efficacy vs.  $T_c$  temperature for HIGNTEK HUL-280SA-036024.

| I [mA] | Flux [%] | Efficacy [%] |
|--------|----------|--------------|
| 300    | 208      | 92           |
| 214    | 150      | 96           |
| 140    | 100      | 100          |
| 80     | 57       | 103          |

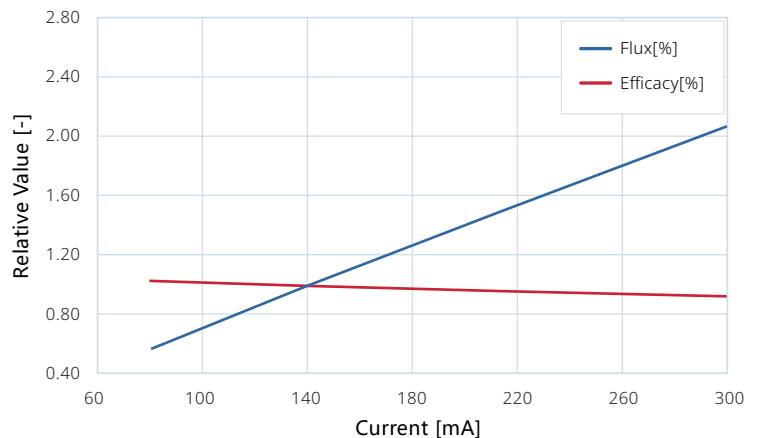


Figure 2. Typical normalized Flux and Efficacy vs. Current for HIGNTEK HUL-280SA-036024.

# Mechanical Dimensions

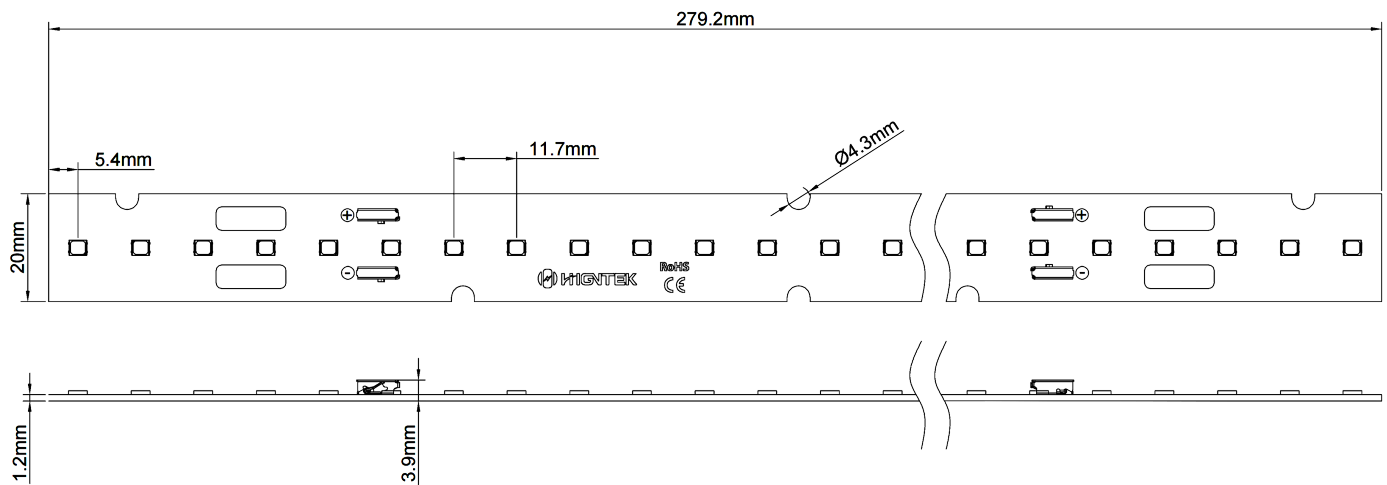


Figure 3. Mechanical Dimensions for HIGNTEK HUL-280SA-036024.

## Notes for Figure 3:

1. Drawings are not to scale.
2. All dimensions are in millimeters.

Table 5. Bill of Materials for HIGNTEK HUL-280SA-036024.

| COMPONENT              | SPECIFICATION PARAMETERS          | QUANTITY |
|------------------------|-----------------------------------|----------|
| LED:2835               | UHE-2835 3V                       | 24       |
| PCB: MCPCB             | 279.2*20mm                        | 1        |
| SMD PCB terminal block | WAGO-2065 0.2-0.75mm <sup>2</sup> | 4        |

## Notes for Table5:

1. Resistance specifications are adjusted according to different power.

## Optional Branding (LED)



## About HengXinYuan

Hengxinyuan is a professional lighting solutions company that helps customers deliver differentiated solutions to gain and maintain a competitive edge. The company's broad product portfolio includes a wide array of package and device choices such as CREE led, SUMSUNG led, LUMILEDS led, UHE led, Indoor lighting module and Outdoor lighting module. Hengxinyuan's LED products pursue high efficiency, high quality, and high reliability, and aim to meet the needs of customers to the greatest extent. With the supply of high-standard supply chain services as the driving force, they contribute to the development of global LED green and healthy lighting power.

