

LED Application Feature: Indoor Wall Pack Lights

Key Market Drivers



Efficiency

- Significant energy savings



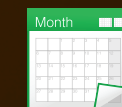
Lower Maintenance Costs

- Eliminates the need for repeated relamping



Quality of Light

- Excellent CRI and better object recognition
- Color in application (LUXEON LEDs are tested and measured at 85°)
- Color consistency of LUXEON Rebel ES LEDs will remain within ANSI spec
- Color over angle performance is best in class
- Industry leading reliability



Lifetime

- Between 30,000 and 50,000 hours



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LEDs & System Components



1. High Power LUXEON® LEDs

| Manufacturer | Product Family | Nominal CCT (K) | Minimum CRI | Typical CRI | Min Flux (lumens) | Typ Flux (lumens) | Test Forward Current (mA) | Typical Efficacy (lm/W) | Part Number |
|------------------|-------------------------------------|-----------------|-------------|-------------|-------------------|-------------------|---------------------------|-------------------------|-------------|
| Philips Lumileds | LUXEON Rebel ES | ANSI 4000 | 70 | 75 | 180 | 205 | 700 | 98 | LXH7-PW40 |
| | | ANSI 4000 | 80 | 85 | 170 | 190 | 700 | 90 | LXW8-PW40 |
| | LUXEON Rebel Illumination Portfolio | ANSI 4000 | 70 | 75 | 90 | 100 | 350 | 95 | LXM7-PW40 |
| | | ANSI 4000 | 80 | 85 | 75 | 85 | 350 | 81 | LXM3-PW51 |

2. Mid Power LEDs

5630 Series (tested at Tj = 25°C)

| Manufacturer | Color | Part Number | CCT (K) | Minimum CRI | Typical CRI | Min Flux (lumens) | Typ Flux (lumens) | Test Forward Current (mA) | Maximum Ratings | Typical Efficacy (lm/W) |
|------------------|-------------------|----------------|---------|-------------|-------------|-------------------|-------------------|---------------------------|---|-------------------------|
| Philips Lumileds | CCT/CRI Specified | MXL8-PW30-0000 | 3000 | 80 | 82 | 26 | 30 | 100 | DC Forward Current: 150mA; LED Junction Temperature: 115°C | 97 |
| | | MXL8-PW35-0000 | 3500 | 80 | 82 | 30 | 31 | | | 100 |
| | | MXL8-PW40-0000 | 4000 | 80 | 82 | 30 | 32 | | | 103 |
| | | MXL8-PW50-0000 | 5000 | 80 | 82 | 30 | 33 | | | 106 |
| | | MXL8-PW65-0000 | 6500 | 80 | 82 | 30 | 34 | | | 110 |

3. Power Solutions

Driver Module Solutions

| Manufacturer | Region | Power (W) | V _{IN} (Vac) | V _{OUT} (Vdc) | I _{OUT} (mA) | Part Number |
|------------------|-----------------------------------|-----------|-----------------------|------------------------|-----------------------|-----------------|
| Mean Well | Worldwide | 20 | 90 - 264 | 9 - 30 | 700 | LPC-20-700 |
| Philips Lighting | North America | 12 | 120 | 2.8 - 33 | 350 | LED120A0350C33F |
| | | 17 | 120 | 2.8 - 24 | 700 | LED120A0700C24F |
| | Europe, Middle-East, Africa, Asia | 12 | 207 - 264 | 2.4 - 33 | 350 | 913700615882 |
| | | 17 | 207 - 264 | 5.6 - 24.6 | 700 | 913700615982 |

IC Solutions

| Manufacturer | V _{IN} (Vac) | V _{OUT} typ (Vdc) | I _{OUT} typ (mA) | Part Number |
|------------------|-----------------------|----------------------------|---------------------------|-------------|
| Marvell | 85 - 277 | 100 | 1200 | 88EM8081 |
| NXP | 70 - 276 | 30 | 1000 | SSL1750 |
| Fairchild | Universal | 30 | - | FL7730 |
| ON Semiconductor | Universal | 42 | 3000 | LV5026127 |

4. Connector Solutions

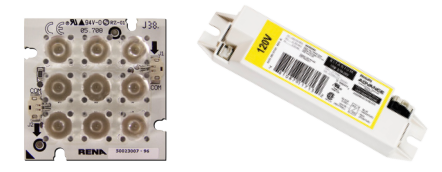
TE Connectivity inverted thru board connector system

| Description | Part Number |
|--|-------------|
| Wire-to-wire tab contact | 2106091-1 |
| Plug assembly (for header, recept., tab) | 2058943-1 |
| Wire-to-board right angle header | 2106056 |

AVX 9159 connector system

| Description | Part Number |
|-----------------------|---------------------|
| Wired plug with latch | 11-9159-002-101-116 |
| Standard socket | 20-9159-002-101-116 |
| Standard plug | 10-9159-002-101-116 |
| Top loading socket | 22-9159-002-101-116 |
| Shorting socket | 58-9159-002-000-006 |

LED Light Engines



1. Light Engine Solutions

| Manufacturer | Dimensions (mm) | LEDs | Lumen Output @ 350mA (lm) | Lumen Output @ 700mA (lm) | CCT (K) | CRI | Connection | Part Number |
|--------------|-----------------|------|---------------------------|---------------------------|---------|-----|--------------|---------------------|
| RENA | 75 x 75 | 9 | 900 | 1610 | 4100 | 60 | CT-Connector | 05706R777760200CXXX |
| | 75 x 75 | 9 | 700 | 1235 | 3500 | 80 | CT-Connector | 05706R888880067CXXX |
| | 75 x 75 | 9 | 730 | 1260 | 3000 | 80 | CT-Connector | 05706R888880075CXXX |
| | 150 x 30 | 6 | 600 | 1070 | 4100 | 60 | CT-Connector | 05705R777760200CXXX |
| | 150 x 30 | 6 | 480 | 855 | 3500 | 80 | CT-Connector | 05705R888880160CXXX |

2. Power Solutions

Driver Module Solutions

| Manufacturer | Region | Number of LEDs per light engine | Power (W) | V _{IN} (Vac) | V _{OUT} MAX (Vdc) | I _{OUT} (mA) | Part Number |
|---------------------|-----------------------------------|---------------------------------|-----------|-----------------------|----------------------------|-----------------------|------------------|
| Harvard Engineering | Worldwide | 6, 9, 12 | 33 | 95-277 | 48 | 700 | CL700S-UNI-C |
| | Europe, Middle-East, Africa, Asia | 9, 12 | 17 | 198-265 | 48 | 350 | CL350D-240-B |
| | | 9, 12 | 30 | 198-265 | 43 | 700 | CL700D-240-B |
| Mean Well | Worldwide | 6, 9 | 21 | 90-264 | 30 | 700 | LPC-20-700 |
| | | 6, 9, 12 | 17 | 90-264 | 48 | 350 | LPC-20-350 |
| ROAL | North America | 9, 12 | 17 | 90-135 | 48 | 350 | RLDD015L-350 |
| | | 6 | 7.4 | 90-135 | 21 | 350 | RLDD015L-350H |
| | Europe, Middle-East, Africa, Asia | 6 | 7.4 | 176-265 | 21 | 350 | RLDD015H-350H |
| Philips Lighting | North America | 6 | 17 | 120 | 24 | 700 | LED120A0700C28DO |

3. Thermal Solutions

| Manufacturer | Output Current (mA) | Thermal Resistance (°C/W) | Dimensions (mm) | Part Number |
|------------------|---------------------|---------------------------|--------------------|---------------|
| Aavid Thermalloy | 350 | 7.98 | 150 x 28 x 9 | 700353B05906G |
| | 350 | 6.21 | 68.1 x 68 x 10.2 | 609553B02681G |
| | 700 | 3.16 | 150 x 32 x 42 | 652453B11811G |
| | 700 | 1.48 | 73.3 x 73.3 x 25.4 | 652453B05906G |

4. Connector Solutions

| Manufacturer | Length (mm) | Description | Part Number |
|-----------------|-------------|-----------------|-------------|
| TE Connectivity | 150 | CT DOUBLE ENDED | 1969343-5 |
| | 300 | CT DOUBLE ENDED | 1969343-6 |
| | 300 | CT SINGLE END | 1969336-3 |