Classroom lighting insights

The bond between teachers and students is a very special one. It’s all about passing on knowledge and discovering the world together.

Going to school should be fun, safe and educational. The classroom is a place where students can learn to excel. Philips LED lighting makes it easy to concentrate, in a healthy, warm and welcoming environment that encourages collaboration and group work. And with the use of intelligent sensors, energy costs can be reduced by up to 70%.

Your Classroom application bundle:
CoreLine Surface-mounted LED34S VAR-PC & Presence detector LRM1000

Traditional
Conventional 2x36 W TLD (8x)

Savings over life *
€2675,-

Application bundle
CoreLine Surface-mounted LED34S VAR-PC (8x) incl. detector

€3717,-

€1042,-

* Based on European average of 12 cent/kW hours including maintenance and lamp replacement cost.

More info:
www.philips.com/applicationbundles
Bundle benefits

CoreLine Surface-mounted LED34S VAR-PC

- Replacing conventional TL-D & TL-5
- Energy saving
- UGR < 19

Presence detector LRM1000

- Automatic switches off light when not required
- Ceiling surface mountable

Detection coverage diagram

Ø 5.0 m (small movements)
Ø 12.0 m (walking across)

Bundle specifications

CoreLine Surface-mounted LED34S VAR-PC

<table>
<thead>
<tr>
<th>Type</th>
<th>SM120V LED34S/830 W20L120 VAR-PC</th>
<th>SM120V LED34S/840 W20L120 VAR-PC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power</td>
<td>31 W</td>
<td></td>
</tr>
<tr>
<td>Luminous Flux</td>
<td>3400 lm</td>
<td></td>
</tr>
<tr>
<td>Color temperature</td>
<td>3000 K, 4000 K</td>
<td></td>
</tr>
<tr>
<td>Color Render Index</td>
<td>≥ 80</td>
<td></td>
</tr>
<tr>
<td>Lifetime</td>
<td>50,000 hours</td>
<td></td>
</tr>
<tr>
<td>Number of luminaires on MCB</td>
<td>≤ 24</td>
<td></td>
</tr>
<tr>
<td>EOC code</td>
<td>26662400, 3000 K</td>
<td>26654900, 4000 K</td>
</tr>
</tbody>
</table>

Presence detector LRM1000

- Detecting range at 2.8 m height: ø 5 - 12 m
- Recommended mounting height: 2 m - 4 m
- Switch off delay: 10 sec. – 5 min.
- Number of luminaires on one control: ≤ 15
- Ordering (EOC) code: 22557700

Lighting design insights

Glare
Use low-glare luminaires for comfort, to improve the experience of students and teachers.

Illuminance
At desks, EN12464-1 requires 300 lux for classrooms and 500 lux for evening classes and adult education.

Controls
Locate the controls directly above the desks to optimize presence detection.

Blackboard
Add dedicated luminaires and adjust their arrangement to light the blackboard for readability.

Lighting design classroom

<table>
<thead>
<tr>
<th>Luminaires types</th>
<th># Lum.</th>
<th>Em [lux]</th>
<th>Sys. Power</th>
<th>Installed Power</th>
<th>W/m2</th>
<th>W/m2/100lux</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conventional 2xTL-D 36 W</td>
<td>8</td>
<td>410</td>
<td>576 W</td>
<td>72 W</td>
<td>8,9</td>
<td>2,2</td>
</tr>
<tr>
<td>CoreLine Surface-mounted LED34S VAR-PC</td>
<td>8</td>
<td>352</td>
<td>248 W</td>
<td>31 W</td>
<td>3,8</td>
<td>1,1</td>
</tr>
</tbody>
</table>