



POWERBOSS ELUMA

DISTRIBUTOR SUPPORT MATERIALS





POWERBOSS ELUMA - THE MARKETPLACE

The primary marketplace into which Powerboss Eluma is initially launched is the warehouse/logistical market, industrial market and warehouse type retail outlets; i.e. D.I.Y. stores, where there is a mounting height of between 6 - 16 meters.

In a typical warehouse environment Powerboss Eluma can provide saving of up to 80% savings. Importantly lighting

equates to 50% to 60% of energy costs within a warehouse facility.

Eluma meets the need of a niche marketplace. We would not advise our Distributors to sell into other lighting markets; i.e. office lighting, etc. where the margins are much tighter; a widening of the sales package will only dilute a strong sales message of Eluma.

POTENTIAL CUSTOMERS

As a Powerboss Eluma Distributor you will typically have three types of customer:

THE RETRO-FIT / END-USER

Inevitably, the primary source of initial business for you as a Distributor will be from the retro-fit marketplace. Where your customers are SMEs or larger chain outlets, the outstanding performance of Powerboss Eluma provides an attractive retro-fit solution both in terms of electrical energy "payback", but also in relation to the maintenance and operator benefits which are substantial and persuasive. Even within highly unionised scenarios where resistance to change is traditionally strong Powerboss Eluma attracts universal acceptance.

In most cases Powerboss Eluma will replace existing metal halide or fluorescent fittings.

THE ELECTRICAL CONTRACTOR

As you establish Powerboss Eluma within your territory, you will build relationships electrical contractors. These contractors will either be your chosen installers, your customer's regular installation and maintenance provider or the contractor specified by an architect or consultant in a new build scenario.

THE SPECIFIER / CONSULTANT

Although initially your primary focus may well be on targeting the retro-fit marketplace, almost inevitably as your market increases and you build success with Eluma, you will work increasingly with Specifiers or Consultants. With whom your aim will be to have Powerboss Eluma specified as the chosen lighting solution in any given new build scenario.

POWERBOSS ELUMA - THE LUMINAIRE



produced from high quality Alanod Miro 4 material, which has approximately 94% reflectance.

Eluma can be supplied open or enclosed. Typically luminaires require to be enclosed for use in food or pharmaceutical installations, where the presence of glass in the lamps requires a fixed barrier to prevent contamination of products; in this case UV Stabilised Polycarbonate diffusers.

It is important to note that a luminaire should only be enclosed when required. In addition to the increased cost, it is a fact that there are approximately 9% efficiency losses through the diffuser. Although we now recommend Lumilux Osram lamps, which is constant output previously older lamps also experienced an additional 10% efficiency losses owing to the increased operating temperature within an enclosed fitting.

UNIT OPTIONS

| | |
|------------|---|
| ELUMA/OP | Eluma Unit (IP20) |
| ELUMA/OP/S | Eluma Unit with Occupancy / Daylight sensors (IP20) |
| ELUMA/EN | Enclosed Eluma (IP54) |
| ELUMA/EN/S | Enclosed Eluma with Occupancy / Daylight sensors (IP54) |
| /EM | Optional Emergency Lighting Pack |

Although other luminaires may use similar lamps, the patented reflector achieves a significantly higher efficiency than other fittings.

THE LUMINAIRE

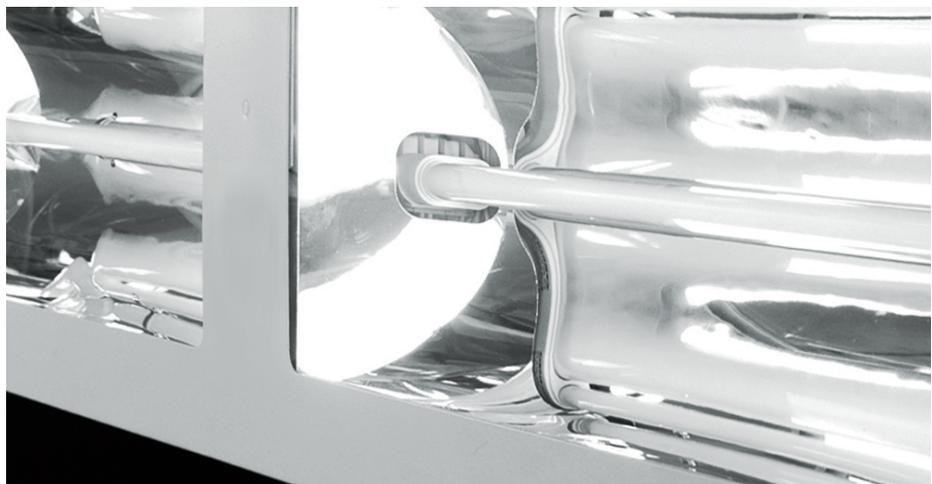
Powerboss Eluma is a high quality designed and manufactured luminaire formed from Powder Coated Zintec sheet.

The key feature is Eluma's Reflector which is covered by Patent. This is

THE LAMPS

The unit requires 4 x 55W single ended Compact Fluorescent lamps - we recommend Osram Lumilux constant output lamps.

Lamp life: 20,000 hours





LAMP HOLDER

Many single ended lamp holders do not hold the lamps sufficiently well and in addition to a loose or "drooping" lamp being a potential hazard; it will not make a good electrical connection, cause arcing and hence damage the lamp. We use a high quality lamp holder which clamps the lamp in place and makes a good electrical connection. To release the lamp, a button pressed and the lamp rotated slightly.

N.B. Additionally a secondary clip also helps the lamp to remain in the optimal position in relation to the reflector for maximum efficiency of light output.

ELECTRICAL CONNECTION

The electrical connection to Eluma is made via a Wago socket on the back of the fitting. The Wago plug is supplied with each luminaire.

Whilst the Wago plug and socket provides a high quality connection system, the primary benefit is that an electrical contractor does not need to gain access to unit in order to make the electrical connection.

COMPETITION THAT EXISTS IN THE MARKETPLACE

In the field of lighting design and application there are always alternative products. Some of these products may be justifiable competitors. Others may be chosen for a number of reasons.

HIGH INTENSITY DISCHARGE (HID)

400W / 250W high pressure sodium, Metal halide, High pressure mercury vapour. These are the conventional systems presently in use, and while in certain applications they may be applicable, our product can provide significant energy saving benefits over these systems.

Apart from the energy savings that can accrue, we can also offer our customers longer life, improved colour rendering and a more controllable lighting installation by virtue of the instant nature of our lamps.

T5 FLUORESCENT SYSTEMS

T5 is a relatively new linear fluorescent light source presently being used by a number of luminaire manufacturers. They are provided in various wattages from 14W to 80W and in many different configurations and are 16mm in diameter.

In terms of our market, there are competitors in the marketplace providing lighting solutions which we will compete with. While the efficiency of the T5 light source is good, a number of these manufacturers have not offered the user all the benefits that lighting technology has available i.e. Integrated dimming and occupancy control, Narrow distribution, particularly for high mounting heights and aisles.

Our product range can offer the user significant benefits with our branded lighting sensor which is not available from other competitors.

T8 FLUORESCENT SYSTEMS

In the past, the 5 ft. / 6 ft. fluorescent solution has been used in the majority of cases. While providing relative efficiencies, they have now been surpassed by new lighting technology which Somar has available to us. T8 lamps are a 25mm fluorescent tube. In terms of the efficiency of our products, we can offer our customers energy gains of 60% over these conventional systems particularly at mounting heights over 10 meters.

POWERBOSS ELUMA - THE FEATURES AND BENEFITS

Powerboss Eluma is designed for mounting heights between 6 and 16 metres.



With a maximum connected load of 220W @ 240V it achieves significant cost savings over conventional lighting fixtures, such as metal halide and some fluorescent fittings (with connected load of 450W or over), whilst maintaining or improving existing illuminance levels.

LINEAR DISTRIBUTION OF LIGHT

The light from a metal halide lamp is a point source and hence creates considerable glare, which is a major user inconvenience - imagine a fork lift driver looking up as he/she stacks a pallet at 10m. The design of Eluma provides a linear distribution of light and hence minimises glare.

INSTANT SAVINGS

In a scenario where Powerboss Eluma is used to replace existing 400W metal halide fittings (connected load 450W) on a one-to-one basis, an immediate saving of 50% is made in kW energy costs.

Eluma can potentially replace twin 5ft fluorescents at a ratio of 5:1 and still maintain or improve light levels. In that case a connected load of over 700W would be replaced with one of 220W.

These two typical retro-fit scenarios show clearly how indisputable savings can be made by Eluma.

SCALLOPING

In an environment with vertical faces, i.e. sides of aisles, metal halide fittings produce a scalloping effect. Powerboss Eluma again provides a more even distribution of light and hence delivers significant operator benefit.

LAMP LIFE AND LAMP FAILURE

The recommended lamps used in conjunction with Powerboss Eluma have a lamp life of 20,000 hours, with little degradation of illuminance during that time. Metal halide or high pressure sodium lamps have a lamp life of only 6000 hours and experience a substantial degradation of output within that time.

When an Eluma lamp fails two lamps go out, i.e. the two connected to the same ballast. When a metal halide lamp fails it can potentially implode.

When a standard fluorescent is close to failure it flickers, which can cause major operator discomfort.





POWERBOSS ELUMA - THE FEATURES AND BENEFITS

THE SENSOR

In addition to the immediate savings, which can be made by Powerboss Eluma each luminaire may be fitted with a sensor, which can further enhance the efficiency of your customer's energy usage; hence reducing costs accordingly.

The sensor is a remotely programmed unit, so therefore your customers can commission or alter the emphasis of each sensor using the programmer.

OCCUPANCY DETECTION

The Powerboss Eluma unit will provide instant light unlike a number of conventional systems which require warm up and hot restrike time. In conjunction with the control flexibility, the Eluma unit will only operate at times when the area is occupied, or in other words when illumination is required.

The Eluma sensor detects occupancy at up to 14 metres; hence in a warehouse environment no operative is ever moving into darkness; an individual sensor is detecting movement before the operative has reached the previous luminaire.

In the majority of work spaces occupancy levels are only 75%, hence 25% of time, the area, or part of the area is unoccupied.

N.B: Although it is not possible to actually extend lamp life by switching off using occupancy detection, the net life before re-lamping is extended.

Optimal shut-off varies between 6 and 16 mins. If the lamp is switched on/off over too short an interval; e.g. 4 mins the lamp life will be shortened.

SETBACK LEVELS

If a minimal light level is required, e.g. for security guards who are afraid of the dark, it is possible to use setback; i.e. instead of switching off all the lights, potentially one at the end of each aisle is dropped down to maybe 20% usage to still provide some light. The effect being that a warehouse is not in complete darkness.

DAYLIGHT DIMMING

As distributors, you will be aware that a number of buildings are fitted with vertical and horizontal glazing in order to provide an ingress of natural light.

In order to harness the savings that can be achieved from natural light, the Powerboss Eluma unit can be set up to constantly change the lighting intensity in accordance with the presence of natural light. When Eluma is dimming to the minimum level it will actually draw between 20W and 30W.

N.B: When a lamp is dimmed, the cathode is still running at the same temperature and hence the lamp life is not extended by dimming.

