1 Luminaire data

1.1 Thorn, ORACLE S 100W HIT-DGE CL1 EFL P... (96259275)

1.1.1 Data sheet

Manufacturer: Thorn

96259275 ORACLE S 100W HIT-DGE CL1 EFL PN/L [L3]
The compact member of the Oracle family, this Oracle is a Class I electrical, road lighting lantern with IP66 optical and gear compartment for 1 x 100W HIT-CE lamp with electronic gear. Its powder coated grey, die-cast aluminium body and flat glass enclosure ensure durability and recyclability. The luminaire can be side entry (Ø34/42/49/60mm x 120mm long spigot, tilted to 0°) or post-top (Ø60/76mm x 80mm long spigot, tilted to 5°) mounted through an integral rotating spigot which can be fixed with 2 screws with safety bolts to secure the initial position. The luminaire delivers uniform lighting, precisely where it is needed according to the application and lighting standards (EN13201). Nema socket. Complete with lamp(s).

Dimensions: 591 x 286 x 154 mm
Total power: 109 W
Weight: 6.2 kg
Windage: 0.057m²

**Luminaire data**
- Luminaire efficiency: 79%
- Luminaire efficacy: 63.78 lm/W
- Classification: A30 ▼100.0% ▲0.0%
- CIE Flux Codes: 39 77 99 100 79
- Control gear:
- System power: 109 W
- Length: 591 mm
- Width: 286 mm
- Height: 154 mm

**Equipped with**
- Quantity: 1
- Designation: HIT-CE
- Power: 100 W
- Colour:
- Luminous flux: 8800 lm
2 Exterior 1 Twin Tech Drift

2.2 Calculation results, Exterior 1 Twin Tech Drift

2.2.1 Pseudo colours, Reference plane 1 (E)

Height of the reference plane : 0.00 m
Average illuminance Eav : 7 lx
Minimum illuminance Emin : 0 lx
Maximum illuminance Emax : 111 lx
Uniformity g1 Emin/Eav : ---
Uniformity g2 Emin/Emax : ---
Oracle S
A compact eco-friendly road lantern
High optical efficiency and fitness of purpose remain essential attributes of good road lantern design.

Oracle S is a wholly-new aluminium road lantern with monitoring and dimming capability. Its design has been influenced by the existing Oracle range and by a recognition and appreciation of the need to provide communities with sustainable and energy saving lighting in a smooth, controlled, manner. The result is a product that is long lasting, compact in design, versatile and economical in use.

With HST, HIT or CPO-TW lamps up to 150W, Oracle S can provide lighting to satisfy the highest requirements of minor road and urban street projects.

Oracle S

But in today’s world – with our responsibility to future generations – we need to give greater recognition to environment factors – and recognise that the need to select the right sustainable approach is as important as the need to change habits.

What influences the way we choose now?
- New habits, new standards, new solutions
- Rapid evolution, not revolution. A host of continuous improvements are being made, driven by new materials and new designs
- Integration of state-of-the-art lamp, gear and remote control /monitoring systems

At Thorn we recognise our sustainability responsibilities, and with the PEC programme we have introduced a wide-ranging philosophy that underpins our approach to lighting design and implementation. The programme is based on the principle that performance, efficiency and comfort determine the visual effectiveness of lighting.

Performance: Providing the best visual effectiveness

Efficiency: Conserving energy and effort, reducing CO₂ emissions and waste, providing lighting that is practical and efficient to install, operate and maintain

Comfort: giving people satisfaction and stimulation

These key attributes are demonstrated throughout this brochure.
The daytime effects of road lighting are influenced by the form and colour of the lantern, its size, style and position.

Oracle S’s pure, sleek shape blends harmoniously with traditional and modern urban landscapes. Fixings and bowl latches are as inconspicuous as possible and control points can be integrated into the design to reduce visual impact. The self-cleaning outline ensures longevity of service without the drawback of complex structures.

As befits its timeless design, Oracle S mixes with the majority of Thorn column packages. The use of compact, powerful lanterns, such as Oracle S, enables dedicated brackets to be shortened, or dispensed altogether, and columns to be spaced further apart. As an aid to visualising the appearance of a particular column, bracket and lantern combination, our City visualisation software is available to download on: www.thornlighting.com/road_lighting.

As well as ‘design by day – light by night’, another consideration is eco-design, which has the entire life cycle in mind. Oracle S has been designed using eco-design principles to assure it meets performance requirements while reducing its environmental impact over its life cycle.

Finally, the tight optical control ensures light is delivered where the designer intended, and as per CIE Technical Report 150, without waste and obtrusion.
Best in class lighting performance

Oracle S optical secret is the design of a new generation of reflector.

When combined with a choice of enclosures (flat or shallow for sharp or medium cut-offs respectively) and optimised lampholder adjustments (15 sets), matches the light distribution to the geometry of the road. The reflector optimises light output and control for both E27/E40 and PGZ12 lamps up to 150W. The benefits are an LOR of 83% and ULOR of 0%, so the road is lit, not the sky!

Glass enclosures provide extra translucency whilst polycarbonate is more durable for use in residential areas.

Where a more restricted distribution of light is required a front or back cut-off shield is available. Being internal this accessory is normally factory fitted, but it can be retro-fitted on site. (see picture 1.)

Prolonged, reliable service is expected of road lanterns which are often infrequently maintained even where environmental conditions are severe.

Oracle S is designed with optic and gear protection in mind bringing benefits to the user in terms of reliable operation and extension of the maintenance cycle. The lantern features a double rated IP66, for the optic and the gear, gasketed with ethylene-propylene rubber (EPDM), which is more weatherproof, has abrasion resistant properties and is better for the environment than silicon, also featuring a breathing system that controls pressure. Careful consideration was given to thermal management issues otherwise the heat generated in operation could adversely affect performance.

The luminaire has been designed using clips and screws instead of glue, ensuring easy dismantling for recycling.

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The specification of Oracle S includes features designed to simplify installation and minimise maintenance requirements, thus saving users time, improving the standard of the final work and maximising safety of both the installing electrician and ultimately the road user.

These include:

- Lightweight, easy to carry body. Oracle S's curved lines offer as little resistance to wind as possible so that columns do not have to be oversized.
- An integral rotating spigot, which allows post top and side entry, provides quick and safe mounting without the need for additional attachments.
- Quick release front-clip for fast and efficient access to the lamp/gear compartment with no need to remove the lampholder or gear.
- Despite its compact size and ability to take up to 150W lamps of high output, its internal space is optimised by clever layout and positioning of components. Access is intuitive and instantly understandable (1).
- Tool-less socket connections wherever possible.
- If necessary during maintenance i.e. for raising and lowering applications the gear can be screw fixed onto the body.

**Maintenance**

- An automatic cut-off device isolates the lantern from the power source when the canopy is opened (2).
- Full IP66 seal. This ensures that the lamp, reflector, enclosure and components are protected against the ingress of dust and moisture, which retains performance, prolongs operation and minimises maintenance and cleaning.
- The control gear is released one handed without the aid of tools (3)(4).
- The lamp settings are not disturbed when the lamp or gear is removed, so original performance is maintained (5)(6).

Contractor friendly
Oracle family

Oracle S is part of a comprehensive family, providing a consistent appearance across a range of different sizes and lamp ratings.

With wattages ranging from 35-400W, Oracle lanterns are equally capable of providing glare free visual clarity for a motorway driver, or promoting feelings of reassurance and safety along a residential street.

Oracle S 60W HIT-CE PC

Product features

Lamps
- 50-150W HST (ST) high pressure sodium. Cap: E27/40
- 35-150W HIT-CE (MT) metal halide. Cap: E27/40
- 45-140W HIT-CE (MT) cosmowhite. Cap: PGZ12

Materials/Finish
Body: die-cast aluminium, powder coated grey
Spigot: die cast aluminium, powder coated Akzo texturised 150 light grey
Enclosures: UV stabilised polycarbonate or toughened glass, self-cleaning treatment on glass available on request
Reflector: high purity anodised aluminium
Screws and clips: stainless steel

Installation/Mounting
Integral tool free rotating spigot secured by 2 screws with safety bolts
Posttop mounting: Ø60/76mm x 80mm long spigot. Tilted to 5°
Lateral mounting: CL1-Ø34/42/49/60mm x 120mm/CL2-Ø49/60mm x 120mm long spigot. Tilted to 0°
Cable gland for Ø8 to 13mm cable

Access from above to gear and optic system after quick release of the stainless steel front clip. Delivered ready to install, complete with factory fitted integral gear tray, all supplied in a single carton (without lamp).

Gears and Controls
Class I electrical or Class II versions
Magnetic and Electronic ballasts
Fix or Stepdim stand-alone Nema socket as standard or minicell on request
Telea compatible, PowerLine or Radio Frequency

Standards
Designed and manufactured to comply with EN 60598-2-3; EN 13-201
Ta -20/+35°C
Weights and maximum windage: <9.3kg and <0.061m²
IK08 (glass)
IK10 (polycarbonate)
IP66 Optic
IP66 Gear

Oracle 2 - large, powerful, lanterns for high speed roads and motorways
Oracle 1 - mid-size lanterns for major and interconnection roads (includes IVS pedestrian crossing versions)
Oracle S – the compact offer for minor roads and urban streets
e-Control is Thorn’s Lighting Controls

of efficient energy use (on the grounds), together with a need both cost and environmental efficient controls.

The continuing importance for more flexible application techniques and given a fresh impetus to the drive for more innovative facility manager to achieve optimum lighting for any environment.

Oracle S offers a wide choice of reliable solutions, including:

- Photocell options such as a Nema socket, or Minicell socket on request, provide basic control
- Electronic ballasts burn less energy and offer longer lamp life
- Step switching ballasts reduce the lighting and power consumption levels in pre-established steps
- Remote monitoring systems, such as Thorn’s Telea, offer an extra dimension, allowing cost-effective energy and maintenance management in an easy, flexible and safe way

Oracle S lanterns with Telea capability enable lighting control of individual light points to be performed from a centralised point without the need to install any complex software or undertake extensive training. This enables the innovative facility manager to achieve optimum lighting for any environment.

The LSC Switch Dim PL controller is required for conventional gear and Step Dim PL, LDC Stepless Dim PL or LDRF Stepless Dim RF controllers for electronic gear. Even a LSRF Switch RF controller (switch only, no dimming) can turn a NEMA-socket equipped Oracle S into a Telea luminaire.
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