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# Standardised Public Lighting Inventory Template User Manual

**AM-LHT-06058**  
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# Standardised Public Lighting Inventory Template

## User Manual

November 2015

ARUP MCO | PROJECTS

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## Introduction

The National Energy Efficiency Action Plan 2009-2020 sets out the Government's commitment to ensure a 20% reduction in energy consumption by 2020. In order to deliver the action plan it is essential that all local authorities have a comprehensive and accurate public lighting asset inventory.

Transport Infrastructure Ireland (TII), City and County Managers Association (CCMA), Sustainable Energy Authority of Ireland (SEAI) and a number of Local Authorities have developed a Public Lighting Inventory Template to ensure standardisation and consistency of data entry for all Local Authorities.

This user manual has been prepared as an accompanying guide to the standardised template to assist individuals within local authorities in completing their public lighting inventories, whether working from an existing database or starting one for the first time. It explains the overall format of the template, the classification of categories for each data field and includes guidance notes for each entry.

The Public Lighting Inventory Template is available for download from the Downloads section of the TII Publications website.

## Section 1 THE NEED FOR INVENTORIES

### Why Have An Asset Management System?

Effective and efficient asset management has long been accepted as a means to deliver organisational objectives and allows an organisation to manage risk and provide a baseline for future business opportunities.

The benefits of a well-structured and accurately populated street lighting inventory database will assist the asset manager in many ways including:

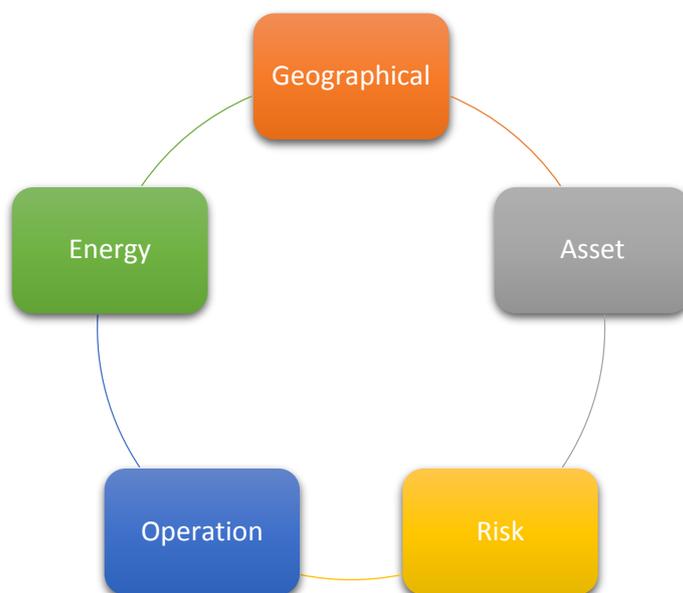
- The ability to economically plan the routine maintenance of the lighting stock;
- Programme the replacement of ageing lighting stock as it reaches the end of its working life;
- Accurately monitor and predict energy consumption expenditure;
- Produce historical data relating to the operation of lighting units at specific times; and
- Undertake energy saving initiatives.

An accurate inventory and audit trail will not only demonstrate that the lighting stock complies with current legislation but it will also provide evidence that reasonable steps have been taken to provide the duty of care and social responsibility bestowed upon the asset holder.

Industry best practise as suggested in 'Well-Lit Highways' which is a UK Lighting Board code of practice for highway lighting management states that the inventory list should be split up into several subject areas. This template builds upon the 'Well-Lit Highways' list of fields to ensure new lighting technology (e.g. LED) can be captured and that those aspects specific to the Republic of Ireland are catered for.

## Inventory Format

The standardised template for inventory data fields is grouped within the five areas as depicted below:



### ***Geographical Data***

The Geographical Data inventory section of the Public Lighting Inventory Template has been created to capture the geographical information that relates to lighting asset locations on a particular network.

Within the Geographical Data inventory section, the categories enable the user to populate fields with descriptive names that are unique to the county as well as the option of grouping street names or lighting schemes under a particular location name.

### ***Asset Data***

The Asset Data section makes up the majority of the Public Lighting Inventory Template and has been prepared with the aim of capturing equipment location and type with sufficient technical data to provide a lighting design engineer to carry out desktop energy appraisals or public lighting designs.

### ***Risk Assessment***

The Risk Assessment Data section of the Public Lighting Inventory Template has been created to capture data required to carry out structural assessment of lighting columns. This information could also aid the creation of locational based risk assessments by providing road and environmental conditions together with safety measures used on a particular lighting asset or scheme.

### ***Operational Data***

The Operational Data section of the Public Lighting Inventory Template has been created to capture maintenance activities and other supplementary records. This includes preventative maintenance cycles, reactive maintenance and the capture of inspection certification numbers.

### ***Energy Data***

The Energy Data section of the Public Lighting Inventory Template has been created to capture data that is specific to the supply of energy to the scheme and information required for billing purposes.

The collection of this inventory data can be captured in a number of ways;

- Progressively through maintenance visits;
- Collection by a data capture company; and
- Extracted from recent maintenance records inspection and testing certificates.

Or a combination of all of these methods.

By analysing a complete and accurate inventory it is possible to gain a comprehensive understanding of the street lighting asset which facilitates the management of risk. For example, the age and condition of columns was monitored with visual inspections, however, there have been cases of columns collapsing due to corrosion and fatigue because the warning signs were not visible from the column exterior. If the installation date, column life expectancy, ground and environmental conditions are known then it is possible for inventory software to predict and create a rolling programme for column replacement.

This rolling programme will shape investment decisions and ensure that budgets are spent in an efficient and prudent manner.

## Section 2 CATEGORY CLASSIFICATION

Within the Public Lighting Inventory Template, each category line item has been assigned a classification based on its importance. These category line item classifications have been assessed and populated with support from a number of local authorities and industry stakeholders.

### Category Classification

Mandatory	<b>M</b>
Mandatory for Future Installations (Optional Retrospectively)	<b>MF</b>
Optional	<b>O</b>

#### **Mandatory**

This category classification has been assigned to line items that are deemed of significant importance in the creation of a public lighting inventory and are suggested to align with industry best practise.

#### **Mandatory for Future Installations (Optional Retrospectively)**

This category classification has been assigned to line items that are deemed of significant importance and should be recorded when future public lighting schemes are being installed. Gathering and recording these line items with regard to existing public lighting schemes is optional as some line items would be difficult and costly to retrospectively assess (especially for equipment that will be removed).

#### **Optional**

This category classification has been assigned to line items that are deemed of lesser importance and therefore the gathering and recording of these line items is at the discretion of the local authority.

## Section 3 LIST OF DATA FIELDS

### Public Lighting Inventory Template – List of Data Fields

#### GEOGRAPHICAL DATA (STREET GAZETTEER)

No.	Category	
1	Street name	M
2	Road number	M
3	Location	O
4	Village, town or district	O
5	Zone	O
6	Local Authority lighting unit	M
7	TII lighting unit	M
8	Flag	O

#### ASSET DATA

No.	Category	
9	Equipment number	Automatically Generated
10	Unit number.	M
11	Unit Type	M
12	Unit co-ord - Easting	M
13	Unit co-ord - Northing	M
14	Column manufacturer	MF
15	Column manufacturer type reference	MF
16	Column cross section shape	M
17	Column height (m)	M
18	Column material type	M
19	Column protective coating	O
20	Column base type	O
21	Column installation date	MF
22	Bracket installation date	MF
23	Bracket material	M
24	Bracket type	M
25	Bracket dimensions	M
26	Number of brackets	M
27	Bracket tilt (degrees)	M
28	Luminaire mounting height	M
29	Number of luminaires	M
30	Luminaire installation date	MF
31	Luminaire manufacturer	MF
32	Luminaire model	MF
33	Luminaire profile	MF
34	Luminaire distribution	MF
35	Luminaire warranty expiry date	MF

36	Light source colour temperature	MF
37	Luminaire driver type	MF
38	Lumen output	MF
39	Light source type	<b>M</b>
40	Light source wattage - actual	<b>M</b>
41	Control gear type	MF
42	Lighting control	MF
43	Control location	<b>M</b>
44	Luminaire circuit protection rating (changed from fuse rating)	MF
45	Circuit ID	MF
46	Supply from	MF
47	Supply to	MF
48	Electrical supply point installation date	MF
49	Attachment/traffic sign size (if fitted)	O
50	Number of approved attachments (if fitted)	O
51	Type of approved attachment (if fitted)	O
52	Interface pillar body manufacturer	MF
53	Interface pillar body material	MF
54	Interface pillar body protection	MF
55	Interface pillar drawing number.	MF
56	Interface box installed	<b>M</b>
57	Underground cable type	O
58	No. of phases of electricity supply	MF
59	Outgoing circuit protection	MF
60	Passive safe column type	MF
61	Passive safe occupancy level	MF
62	Passive safe electrical disconnection type	MF
63	Passive safe electrical disconnection manufacture and model	MF

#### **RISK ASSESSMENT DATA**

<b>No.</b>	<b>Category</b>	
64	Ground conditions	O
65	Salting of road	O
66	Road environment	O
67	Environment situation	O
68	Wind exposure	O
69	Designed for fatigue	O
70	Traffic flow	O
71	Traffic speed	O
72	On a bridge	O
73	Pedestrian density	O
74	ESB network pole	<b>M</b>
75	ESB safety alert pole	<b>M</b>
76	ESB network pole Luminaire Location (over or under conductor)	<b>M</b>

**OPERATIONAL DATA**

<b>No.</b>	<b>Category</b>	
77	Date of last cyclic of maintenance visit	MF
78	Date of last group lamp replacement	MF
79	Date of last cycle of cleaning	MF
80	Date of last re-application of protective coating	MF
81	Basic structural inspection and condition level	MF
82	Date of last structural inspection and condition level	MF
83	Structural test certificate reference number	MF
84	Date of Electrical Installation Test & Results	MF
85	Electrical Installation Test Certificate Reference Number	MF
86	Date of Last Periodic Electrical Inspection Test & Results	MF
87	Periodic Electrical Inspection Test Certificate Reference Number	MF
88	Date of last fault including emergency faults	MF
89	Fault type and history including emergency faults	MF
90	Lighting standard	O
91	Non-destructive column testing type	O
92	Non-destructive column testing date	O
93	In charge	O
94	In charge date	O
95	Patrol Scouting/Reported by Public	O

**ENERGY DATA**

<b>No.</b>	<b>Category</b>	
96	Billable wattage (unmetered supplies only)	<b>M</b>
97	Maximum Import Capacity (MIC) measured in kVA	O
98	UMR billable code (unmetered supplies only)	(Reserved for possible future use )
99	Switching regime	<b>M</b>
100	Annual Burn Hours on UMR	<b>M</b>
101	Electricity supply point coordinates ( Easting)	O
102	Electricity supply point coordinates ( Northing)	O
103	Metered/Unmetered	<b>M</b>
104	Group Metered Point Reference No. GMPRN	<b>M</b>
105	Metered Point Reference No: MPRN	<b>M</b>
106	Technical Metered Point Reference No: TMPRN	<b>M</b>

## Section 4 FIELD BY FIELD DESCRIPTORS

### Geographical Data (Street Gazetteer)

**1. Street Name: (M)**

Free Text Entry

This is a free text tab to allow entry of a street name.

**2. Road Number: (M)**

Free Text Entry

This is a free text tab to allow entry of a unique road number which is made up of single letters or numbers e.g. N32.

**3. Location: (O)**

Free Text Entry

This is a free text tab to allow entry of location detail which can be important when an operative is looking in an area away from a road or house number e.g. "adjacent bus stop".

**4. Village, Town or District: (O)**

Free Text Entry

This is a free text tab to allow entry of a village, town or district name.

**5. Zone: (O)**

Free Text Entry

This can be used by local authorities to group streets together.

**6. Local Authority Lighting Unit: (M)**

Free Text Entry

This refers to the local authority that the lighting unit is under the ownership of

**7. TII Lighting Unit: (M)**

This refers to whether the lighting unit is under the ownership of the TII.

Yes	▼
No	

**8. Flag: (O)**

Free Text Entry

This free text tab allows the user to enter a string of text to capture an alert or an issue related to the particular asset. For instance, lighting assets for a new housing development that are not yet adopted by an authority and the energy payment is being made by others.

### Asset Data

**9. Equipment Number: (Automatically Generated)**

This is the unique number that is assigned to a piece of equipment within a particular database. In some cases this unique number is generated automatically and relates to the unit type.

**10. Unit Number: (M)**

Free Text Entry

This is a unique number that is used to identify a lighting column within a particular scheme.

Typically this number can be recorded from ground level and is made up of a letter and number combination. Quite often the letter(s) indicates the area or zone the lighting column is situated within. e.g. E5351 may refer to column 5351 located in zone 'E'.



**11. Unit Type: (M)**

This is the type of structure used to mount the luminaire. Examples of such unit types may include:

Standard Column	▼
Bollard	
ESB Pole	
High Mast	
Traffic Sign	
CCTV	
Feeder Pillar	
Wall Mounted	
Raising and Mounted Column	
Other Please Specify	

Free Text Entry

**12. Unit Coordinate – Easting: (M)**

The term easting refers to a 6 digit geographic coordinate that is used to locate a lighting column unit and is recorded in ITM (Irish Transverse Mercator) format. Accuracy to +/- 1 metre.



**13. Unit Coordinate – Northing: (M)**

Free Text Entry

The term easting refers to a 6 digit geographic coordinate that used to locate a lighting column unit and is recorded in ITM (Irish Transverse Mercator) format. Accuracy to +/- 1 metre.

**14. Column Manufacturer: (MF)**

This is the name of the column manufacturer. Examples of such manufactures are Stainton, Abacus, SAPA, Fabrikat and CU Phosco. Knowing the name of the column manufacturer can be important for future retrofitting of luminaires and for safety alerts.

Stainton	▼
SAPA	
Fabrikat	
CU Phosco	
Lamp Construction	
Other Please Specify	

**15. Column Manufacturer Type Reference: (MF)**

Free Text Entry

This relates to the manufacturers reference number that may be visible on the body of the column or branded on the base compartment door. This reference number may be unique to the column or to the manufacturer and may provide valuable information for column identification or replacement purposes.

**16. Column Cross Sectional Shape: (M)**

This relates to the cross sectional style and design shape of the column. In most instances the cross sectional design has five common designs referred to as TUB (for tubular), OCT (for Octagon), HEX (for Hexagonal) CON (for Conical) and TAP (Tapered).

TUB	▼
TAP	
OCT	
HEX	
Conical	
Other Please Specify	

**17. Column Height: (M)**

This relates to the height of the column and is measured in meters. This measurement does not include the column root and refers to the height of the column from ground level to the lantern mounting.

4m	▼
5m	
6m	
8m	
10m	
12m	
15m	
20m	
30m	
Other Please Specify	

**18. Column Material Type: (M)**

This refers to the material that the column is manufactured from. Typically the column material type is manufactured from steel/aluminium/cast iron/concrete or wood.

Steel	▼
Aluminium	
Cast Iron	
Concrete	
Wood	
Other Please Specify	

**19. Column Protective Coating: (O)**

This refers to the protective coating that may have been applied to the column at manufacture or during installation and maintenance. Please refer to *Specification for Highway Works Series 1900 (Protection of steelwork against corrosion)* for guidance. A galvanised treatment tends to be a standard protective coating added at the time of manufacture for the column broad base and shaft with a bitumen coating additionally applied to the column root to give protection against underground conditions. If the column has been painted, the RAL colour refers to the paint colour that has been applied to the column and should also be recorded.

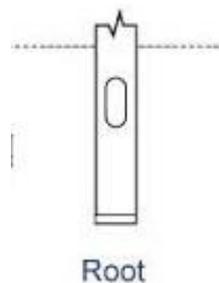
A1
A2a
A2b
G1
G2a
G2b
Other Please Specify

**20. Column Base Type: (O)**

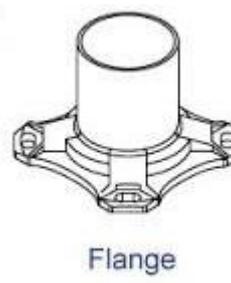
Root column base type refers to the lighting column being planted into a foundation with the foundation being used to fix the column in position.

Flange plated column base type refers to an integral plate complete with several holes at the base of the column used to accommodate studs or bolts to be fastened down to a concrete foundation.

Root Column Base
Flange Plate Base
Sleeve Planted
Other Please Specify



Rooted Column Base



Flange Plated Base

**21. Column Installation Date: (MF)**

This is the recorded date that the lighting column was installed.

DD/ MM/ YY
------------

**22. Bracket Installation Date: (MF)**

This is the recorded date that the bracket was installed.

DD/ MM/ YY
------------

**23. Bracket Material: (M)**

This refers to the material that the bracket was manufactured from. Typically, the material used in the manufacture of brackets (arm) is steel, aluminium or cast iron. Many brackets have a webbing located where the bracket meets the column to improve strength and rigidity.

Steel
Aluminium
Cast Iron
Concrete
Wood etc
Other Please Specify

**24. Bracket Type: (M)**

This refers to the bracket (arm) which supports the luminaire, the bracket arm can be described as integral to the column or demountable from the column.

Where brackets are demountable there is usually a method of restricting its rotational movement e.g. grub screw, locating pin or castle top.

Integral	▼
Demountable	
Other Please Specify	

**25. Bracket Dimensions: (M)**

This refers to the horizontal distance from the longitudinal axis of pole to the end of bracket (arm).

0.2	▼
0.5	
1	
1.5	
Other Please Specify	

**26. Number of Brackets : (M)**

This refers to the number of brackets (arms) that are on the column. In some instances, several brackets may be attached to a column to provide light in more than one area.

1	▼
2	
Other Please Specify	

**27. Bracket Tilt: (M)**

This refers to the inclination of the projection bracket (arm) above the horizontal alignment and is measured in degrees. In some cases, where an extended bracket is used, a 3 degree tilt is specified to compensate for bracket sag where zero degrees is required for a compliant design. Typical inclinations are 0-5 degrees, however, in certain residential or amenity lighting areas the tilts can increase to throw light further forward (This should not happen in areas sensitive to glare).

0 degree	▼
5 degree	
10 degree	
15 degree	
Other Please Specify	

**28. Luminaire Mounting Height: (M)**

Luminaire is the term used for a "light fitting" or "fixture". It is a complete lighting unit that controls the distribution of light given by a lamp(s) and includes components for fixing and protecting the lamp(s) and for connecting them to the supply circuit. Luminaires for road lighting are often known as lanterns.

Generally the luminaire height is similar to the column height but could be different if the bracket (arm) provides additional or lower mounting heights than the column. This is measured in meters.

4m	▼
5m	
6m	
8m	
10m	
12m	
15m	
20m	
30m	
Other Please Specify	

**29. Number of Luminaires: (M)**

This is the number of luminaires on the lighting column. Typically only one lantern is installed, however, in certain instances more than one lantern may be used e.g. central reserve columns generally use two and high mast lighting typically have a cluster of six to twelve luminaires arranged within a canopy.

1	▼
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	
Other Please Specify	

**30. Luminaire Installation Date: (MF)**

This is the recorded date that the luminaire was installed.

**31. Luminaire Manufacturer: (MF)**

This is the name of the luminaire manufacturer. Typical luminaire manufacturers within the industry may include Philips, Thorn and Urbis.

Philips	▼
Thorn	
Urbis	
Holophane	
Orangetek	
CU Phoco	
Other Please Specify	

**32. Luminaire Model: (MF)**

This is the manufacturer luminaire model name.

**33. Luminaire Profile: (MF)**

These are the transparent covers that are applied to the luminaire. Typical transparent design types may include flat glass, bowl and curved bowl.

Flat Glass	▼
Deep Bowl	
Curved Bowl	
Other Please Specify	

**34. Luminaire Distribution: (MF)**

Photometric characteristic of a luminaire. This is the shape of a light distribution on a surface as a result of light being processed through either a reflector or lens. Lamp Type/Setting reference Code.

**35. Luminaire Warranty Expiry Date: (MF)**

This is the date that the manufacturer has provided as a warranty for the luminaire.

### 36. Light Source Colour Temperature: (MF)

Historically, street lighting lamps had a warm colour temperature, however, with recent developments in technology a greater range of colours are now available.

Warm 2200K-2700	▼
Neutral 3500K	
Cool 4100K	
Other Please Specify	

Within the BS EN 5489-1:2013, the use of 'white light' sources allows for a lower lighting class to be selected on subsidiary roads, due to their superior colour rendering index (CRI).

### 37. Luminaire Driver Type: (MF)

This specifically makes reference to drivers that are used for powering LED arrays in an LED light. These drivers can be considered as an equivalent to traditional lighting ballast which are used to ignite a HID lamp sources. LED drivers convert an AC power supply to low voltage DC typically in the range of 12/24V while also providing protection against voltage or current fluctuations.

350mA	▼
500mA	
700mA	
350mA CLO	
500mA CLO	
700mA CLO	
Other Please Specify	

LED drivers also regulate driver current to maintain constant light levels over the life of the unit which is known as CLO (Constant Light Output).

In recording the driver type it is recommended that the mA rating is recorded.

### 38. Lumen Output: (MF)

Free Text Entry

This refers to the total amount of visible light measured from a light source and is measured in Lumens. The higher the amount of lumens the brighter the light.

### 39. Light Source Type: (M)

This refers to the light source type that emits light.

LED - Light Emitting Diode	▼
SON - High Pressure Sodium	
SOX - Low Pressure Sodium	
Metal Halide	
Other Please Specify	

#### *SOX - Low Pressure Sodium*

Low Pressure Sodium is a type of HID sodium vapour discharge lamp. When the lamp is turned on it emits a dim red/pink light to warm the sodium metal and within a few minutes it turns into the common bright yellow as the sodium metal vaporizes.

These lamps produce a virtually monochromatic light. As a result, the colours of illuminated objects are not easily distinguished because they are seen almost entirely by their reflection of this narrow bandwidth yellow light.



*SON - High Pressure Sodium*

High Pressure Sodium is a type of HID sodium vapour discharge lamp. Due to the high pressure sodium and mercury emissions from mercury during operation, more colours can be distinguished compared to a low-pressure sodium lamp. These light sources tend to be used in areas where improved colour rendering is important or desired



*Metal Halide*

e.g. Cosmopolis, introduced in the 2000's but development in LED has superseded this technology and its use in Ireland is understood to be minimal.



*LED - Light Emitting Diode*

An LED Lighting source uses solid state technology to produce light. LED lamps offer long service life and high energy efficiency.



**40. Light Source Wattage – Actual (M)**

This is the nominal lamp wattage that is used by the particular light source.

600W	▼
400w	
250w	
150w	
180w	
135w	
100w	
90w	
70w	
55w	
Other Please Specify	

**41. Control Gear Type: (MF)**

Most artificial light sources other than incandescent lamps require special control gear to start the lamp and control the current after starting. Depending on the type of lamp involved, the control gear can take the form of ballasts, igniters or transformers.

Electromagnetic	▼
Electronic	
LED Driver	

- *Electromagnetic Ballast:* An electromagnetic ballast uses electromagnetic induction to provide the starting and operating voltages of a gas discharge light.
- *Electronic Ballast:* Electronic ballast are a more modern type of lighting ballast. An electronic ballast uses solid state circuitry to control the light source. Because it uses solid-state circuitry instead of electromagnetic coils, it is more efficient.
- *LED Driver:* LEDs use drivers rather than ballasts and offer the flexibility to operate LEDs at varying drive currents.

**42. Lighting Control: (MF)**

Autonomous controls, such as photo-electric control units (PECUs) and time switches are generally used to switch the lights on as darkness falls and switch them off at dawn. Another lighting control used within the industry is Central Management Systems (CMS) which provides two-way communication between a remote server and each light point of a particular network.

PECU	▼
Time switch	
CMS	
Other Please Specify	

**43. Control Location: (M)**

A photocell or (PECU /Photo Electric Control Unit) is an electric switch which is triggered at a specific light level. This can be assessed by visual assessment at ground level. These PECU or photocell cells can be used to control individual lights or control a grouping of lights within a scheme.

Individual PECU	▼
Group Controlled PECU	

**44. Luminaire Circuit Protection Rating: (MF)**

This relates to the amp type and rating of the fuse that resides in the base of the column which protects the lantern and associated cable from excessive currents fluctuations.

BS 6A	▼
BS 10A	
BS 13A	
BS 16A	
Other Please Specify	

**45. Circuit ID: (MF)**

This is the particular ID that is given to the lighting circuit.

Free Text Entry

**46. Supply From: (MF)**

This refers to the reference number of the lighting column that is connected to the feeder/interface pillar. This can provide valuable information for future fault investigation or retrofitting works.

Free Text Entry

**47. Supply To: (MF)**

Free Text Entry

This refers to the reference number of the next lighting column within the circuit. This can provide valuable information for future fault investigation or retrofitting works.

**48. Electrical Supply Point Installation Date : (MF)**

DD/ MM/ YY

This is the recorded date that the electrical supply point was installed.

**49. Attachment/Traffic Sign Size (if fitted): (O)**

Free Text Entry

This refers to the type and size of the attachment that maybe installed on the lighting column. Such attachments may increase wind loading effects on the column. Guidance in the calculation of wind loading on columns is given in BS EN 1991:1-4:2005 Section 7.

**50. Number of Approved Attachments (if fitted): (O)**

Free Text Entry

This refers to the number of attachments that have been approved for installation on the column.

**51. Type of Approved Attachment (if fitted): (O)**

PD 6547:2004+A1:2009 Table 3 provides detail related to the type of approved attachment that is typically installed on lighting columns.

Sign Class A	▼
Sign Class B	
Sign Class C	

**52. Interface Pillar Body Manufacturer: (MF)**

Free Text Entry

This refers to the details of the interface pillar body manufacturer.

**53. Interface Pillar Body Material: (MF)**

This refers to the material type of the interface pillar body which is commonly galvanised steel however, in areas with no earthing provided (TT), ESNB may stipulate GRP (Glass reinforced plastic) interface pillars.

Cast iron	▼
3mm Steel	
5mm Steel	
Stainless Steel	
GRP	
Other Please Specify	

**54. Interface Pillar Body Protection: (MF)**

Free Text Entry

Interface pillar protection should be in accordance with ESB National Code of Practice for Customer Interface.

**55. Interface Pillar Drawing Number: (MF)**

Free Text Entry

Number that is relevant to the particular drawing.

**56. Interface Box Installed: (M)**

Yes	▼
No	

This refers to whether there is an interface box installed for electricity supply to the lighting circuit.

**57. Underground Cable Type: (O)**

This refers to the type of underground cable used to connect the electricity supply to the lighting units. Typically underground cable types are concentric cable, armoured or sheathed.

Concentric	▼
Sheathed	
Armoured	
Armoured/Sheathed	
Other Please Specify	

**58. Number of Phases of Electricity Supply: (MF)**

This refers to the number of electrical supply phases used to supply the scheme or particular lighting unit.

Single Phase	▼
Three Phase	

**59. Outgoing Circuit Protection: (MF)**

This refers to the circuit protection associated with the outgoing supply to the lighting circuit.

BS 6A	▼
BS 10A	
BS 13A	
BS 16A	
RCBO 30mA	
Other Please Specify	

**60. Passive Safe Column Type: (MF)**

These are column types which are also known as support structures in this instance that are specifically designed to yield on impact by a vehicle and several categories exist to balance the protection of vehicle occupants against the safety of other road users e.g. pedestrians.

HE	▼
LE	
NE	
N/A	

European standards consider three categories of passive safety support structured columns, these column types are:

- *High energy absorbing (HE)*  
Energy absorbing support structures slow the vehicle considerably and thus the risk of secondary accidents with structures, trees, pedestrians and other road users can be reduced.
- *Low energy absorbing (LE)*  
Non-energy absorbing support structures permit the vehicle to continue after the impact with a limited reduction in speed. Non-energy absorbing support structures may provide a lower primary injury risk than energy absorbing support structures.
- *Non-energy absorbing (NE)*  
Non-energy absorbing support structures permit the vehicle to continue after the impact with a limited reduction in speed. Non-energy absorbing support structures may provide a lower primary injury risk than energy absorbing support structures.

**61. Passive Safe Occupancy Level: (MF)**

This relates to the grading of the support structure. Support structures with no performance requirements for passive safety are classed as 0.

0	▼
1	
2	
3	
Other Please Specify	

Levels 1, 2 and 3 are levels of safety in relation to impact severity for occupants. 1 being the lowest, 3 being the highest.

**62. Passive Safe Electrical Disconnection Type: (MF)**

In addition to the performance guidelines associated with passive safe column design and installation, isolation of the electrical supply can also be ensured by three possible methods;

Electronic	▼
Mechanical	
Fuse	

- **Electronic** monitoring of a tilt switch mechanism located within the base of the post or column to isolate circuit on impact
- **Mechanical/Physical** circuit disconnection utilising a pull out plug or equivalent near the base of the post or column
- **Fuse** or circuit breaker to limit the power supply circuit loop impedance through appropriate circuit design

**63. Passive Safe Electrical Disconnection Manufacturer and Model: (MF)**

Free Text Entry
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This refers to the name of the manufacturer of the passive safe disconnection equipment.

## Risk Assessment Data

**64. Ground Conditions: (O)**

This refers to the ground conditions in which the lighting column has been installed.

Good	▼
Average	
Poor	

For guidance on ground conditions refer to an extract from PD 6547:2009 on ground conditions, in conjunction with BS EN 40-3-1 and -3. Example of ground conditions are described below,

- **Good:** Compact, well-graded sand and gravel, hard clay, well-graded fine and coarse sand, decomposed granite rock and soil. Good soils drain well.
- **Average:** Compact fine sand, medium clay, compact well-drained sandy loam, loose coarse sand and gravel. Average soils drain sufficiently well that water does not stand on the surface.
- **Poor:** Soft clay, clay loam, poorly compacted sand, clays containing a large amount of silt and vegetable matter, and made-up ground. Poor soil is normally wet with poor drainage.

**65. Salting of Road: (O)**

This refers to whether the carriageway in which the lighting column is installed is salted. If the carriageway is salted, increased protection and/or maintenance of the column may be required.

Yes	▼
No	

**66. Road Environment: (O)**

This refers to the makeup of the traffic on the road. This shall have a determining effect on what lighting class shall be used.

Primarily vehicular	▼
Mixed vehicular and pedestrian	
Wholly pedestrian	

As per BS 5489-1:2013, Categories of traffic can be classified as

Primarily vehicular (Usually ME class unless residential)

Mixed vehicular and pedestrian (tends to be CE classes applied on a shared surface)

Pedestrian and cyclist (Non-Motorised Users)

**67. Environment Situation: (O)**

Guidance that describes the particular type of lighting environment as per (GN 01:2011 Institution of Lighting Professionals)

Mainly areas where the control of glare and light trespass is important.

Areas of outstanding natural beauty and heritage areas are applicable.

E0	▼
E1	
E2	
E3	
E4	
E5	

Zone	Lighting Environment	Examples
E0	Dark	UNESCO Starlight Reserves, IDA Dark Sky Parks
E1	Intrinsically Dark	National Parks, Areas of Outstanding Natural Beauty etc.
E2	Low District Brightness	Village or relatively dark outer suburban locations.
E3	Medium District Brightness	Small town centres or suburban locations
E4	High District Brightness	Town/city centres with high levels of night-time activity

**68. Wind Exposure: (O)**

Wind profile expected at the column location.

**69. Designed for Fatigue: (O)**

Applies to any column above 9m nominal height. Refer to BS EN 40-3-3:2003 clause 8 if column is above 9m nominal height.

Yes	▼
No	

**70. Traffic Flow: (O)**

Annual average daily traffic figures. For national roads these figures are available on the [www.tii.ie](http://www.tii.ie). In local instances, traffic flows can be to be manually recorded.

**71. Traffic Speed: (O)**

Posted speed limit of carriageway. This is measured in Km/ph.

30kph	▼
50kph	
60kph	
80kph	
100kph	
120kph	
Other Please Specify	

**72. On a Bridge: (O)**

Additional measures would be required if positioning a column upon a bridge structure such as increased cognisance to increased wind loading and planting arrangements.

Yes	▼
No	
Unknown	

**73. Pedestrian Density: (O)**

This refers to the pedestrian traffic density on the road.

Free Text Entry

**74. ESB Network Pole: (M)**

A wooden or steel pole supporting ESB conductors which can, with the permission of ESB, support street lighting luminaires by means of a purpose made bracket and termination box (a.k.a. Box Bracket). A set of tails are connected to the overhead line and provide the box bracket with 230volts. It is good practice to position the luminaire on the pole at least 1 metre down from the lowest electrical conductor and to also utilise a luminaire with a maintenance inspection cover that opens downwards from its canopy.

Yes	▼
No	

**75. ESB Safety Alert Pole: (M)**

ESB have confirmed that they have found signs of early decay in a number of wooden network poles across the country. These poles are believed to be part of a batch which were imported into Ireland from Scandinavia between 1996 and 2008. As a consequence, ESB have put a restriction on climbing/working on specified poles. Please contact ESB for further direction on this issue.

Yes	▼
No	

**76. ESB Network Pole Luminaire Location (Over or Under Conductor) (M)**

This relates to whether the bracket is installed over a conductor or under a conductor. The conductor being overhead supply conductors on the ESB network.

Over conductor	▼
Under conductor	



Over Conductor Mounting



Under Conductor Mounting

## Operational Data

**77. Date of Last Cyclic of Maintenance Visit: (MF)**

This refers to the date at which the last cycle of maintenance was conducted.

**78. Date of Last Group Lamp Replacement: (MF)**

This refers to the date at which the last group lamp replacement was conducted.

**79. Date of Last Cycle of Cleaning: (MF)**

This refers to the date at which the last cycle of cleaning was conducted.

**80. Date of Last Re-Application of Protective Coating: (MF)**

This refers to the date at which the last re-application of protective coating was applied to the column.

**81. Basic Structural Inspection and Condition Level: (MF)**

An understanding of the structural design and condition of columns should be ascertained if retro fitting with LED units. TR22 (Managing Vital Asset Lighting Structures) is a technical paper produced by the Institute of lighting professionals provides guidance on the management of lighting supports and structures.

**82. Date of Last Structural Inspection and condition level: (MF)**

This refers to the date at which the last structural inspection was conducted.

**83. Structural Test Certificate Reference Number: (MF)**

This is the particular reference number that appears on the structural test certificate.

**84. Date of Electrical Installation Test & Results: (MF)**

This refers to the date and result of the electrical installation tests. Electrical installation test results may be required by the electrical supply company to enable connection of supply. Electrical testing should be in accordance with ET101 National Rules for Electrical Installations.

**85. Electrical Installation Test Certificate Reference Number: (MF)**

This is the particular reference number that appears on the electrical installation test certificate. Electrical testing should be in accordance with ET101 National Rules for Electrical Installations.

**86. Date of Last Periodic Electrical Inspection Test & Results: (MF)**

This refers to the date and result of the last periodic electrical inspection test of the scheme circuit. Electrical inspection testing should be in accordance with ET101 National Rules for Electrical Installations.

**87. Periodic Electrical Inspection Test Certificate Reference Number: (MF)**

This is the particular reference number that appears on the electrical inspection test certificate. Electrical inspection testing should be in accordance with ET101 National Rules for Electrical Installations.

**88. Date of Last Fault Including Emergency Faults: (MF)**

This refers to the date that the last emergency fault occurred.

**89. Fault Type and History including Emergency Faults: (MF)**

This refers to the history of particular faults and type. This can also include emergency faults.

**90. Lighting Standard: (O)**

This refers to the lighting standard that was applicable at the time of design e.g. BS5489-1:2003 and could be entered as the following:

Traffic Routes	ME1 to ME6
Conflict Areas	CE1 to CE5
Residential Areas	S1 to S7 (LED P1 to P6)

**91. Non-destructive Column Testing Type: (O)**

The current condition of existing columns has, in some local authorities, been reliant on visual and non-scientific methods of assessment e.g. a hammer tap to the column base, however, it is recognised that to properly ensure the integrity of the column a structural test should be carried out by a company specialising in testing and guaranteeing column life for a set period of time.

Once this test has been carried out the date can be recorded within the inventory database and will act as a baseline for remaining column lifespan.

**92. Non-destructive Column Testing Date: (O)**

This refers to the date of the last Non-destructive test that was carried out on the column.

**93. In Charge: (O)**

This refers to whether a particular lighting scheme has been taken over by the relevant authority.

**94. In Charge Date: (O)**

This refers to the date that the relevant authority took ownership of the scheme and began responsibility for energy payment and maintenance.

**95. Patrol Scouting/Reported by Public: (O)**

In some local authorities, the designated maintainer conducts scouting patrols on predetermined routes to assess the lighting assets on the network. In other circumstances, members of the public report defective infrastructure directly to the local authority.

Reported by Public ▾
Patrol Scouting
Other Please Specify

## Energy Data

**96. Billable Wattage (unmetered supplies only): (M)**

Free Text Entry
-----------------

This refers to the nominal wattage of luminaire and control gear that is to be billed.

**97. Maximum Import Capacity (MIC): (O)**

Free Text Entry
-----------------

The Maximum Import Capacity is the maximum rate of energy use (or power – measured in kVA) to be borne by the supply connection as agreed between ESB Networks and you the customer. If your demand exceeds your MIC, you will be penalised by your supplier in the form of Excess Capacity Charges. Therefore it is important to ensure that your MIC is set at the correct level.

**98. UMR Billable Code (unmetered supplies only)**

Reserved for possible future use
----------------------------------

This refers to the particular code that matches the UMR billable wattage.

**99. Switching Regime: (M)**

This relates to the time at which the light turns on/off and dims. This switching regime can be determined by lux levels or time settings or a combination of both. (The full extent of dimming profiles are not yet known with suitable national coding are still to be agreed.)

70 / 70 LUX ▾
70 / 35 LUX
35 / 18 LUX
20 / 20 LUX
Other Please Specify

**100. Annual Burn Hours on UMR: (M)**

Free Text Entry
-----------------

This refers to the hours that the lighting source is switched on throughout the year.

**101. Electricity Supply Point Coordinates (Easting): (O)**

Free Text Entry
-----------------

The term easting refers to a 6 digit geographic coordinate that is used to locate the electricity supply point pillar or other supply source that feeds the lighting scheme and is recorded in ITM (Irish Transverse Mercator) format. Accuracy to +/- 1 metre.

**102. Electricity Supply Point Coordinates (Northing): (O)**

Free Text Entry
-----------------

The term northing refers to a 6 digit geographic coordinate that is used to locate the electricity supply point pillar or other supply source that feeds the lighting scheme and is recorded in ITM (Irish Transverse Mercator) format. Accuracy to +/- 1 metre.

**103. Metered/Unmetered: (M)**

Metered   
Unmetered

This refers to whether the electricity supply point that is feeding the lighting circuit is metered or unmetered. Typically unmetered supplies are less than 2kVA with metered supplies being greater than 2kVA.

**104. Group Metered Point Reference Number. GMPRN: (M)**

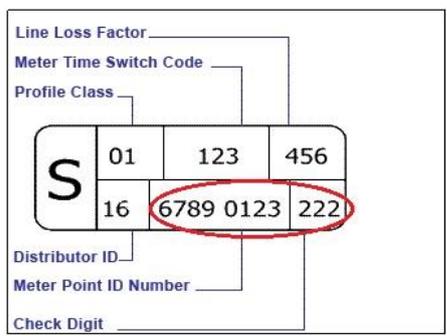
Free Text Entry

Is a unique 11 digit number assigned by ESN to a group of unmetered supplies, these unmetered supplies that fall under the GMPRN are assigned an individual TMPRN (Technical Meter Point Reference).

**105. Metered Point Reference Number: MPRN: (M)**

Free Text Entry

Is a unique 11 digit number that is assigned to an electricity meter by ESN as highlighted in the illustration below. Typically metered supplies are greater than 2kVA.



**106. Technical Metered Point Reference No: TMPRN: (M)**

Free Text Entry

Is a unique 11 digit number that is assigned to an unmetered supply that falls under a GMPRN number. Typically unmetered supplies are less than 2kVA with metered supplies being greater than 2kVA.

## REFERENCES

Well-lit Highways Code of Practice for Highway Lighting Management November 2004

<http://www.ukroadsliaisongroup.org/en/UKRLG-and-boards/uk-lighting-board/welllit-highways.cfm>

GN01:2011 Guidance Notes for the Reduction of Obtrusive Light.

<https://www.theilp.org.uk/documents/obtrusive-light/>

ILP TECHNICAL REPORTS TR22 Managing a Vital Asset: Lighting Supports

<https://www.theilp.org.uk/resources/ilp-technical-reports/tr22/>

BS 5489: Road lighting

CIE 115:2010 Lighting of Roads for Motor and Pedestrian Traffic

BS EN 40-3-3:2003 Lighting columns Part 3-3: Design and verification— Verification by calculation

PD 6547 Guidance on the use of BS EN 40-3-1 and BS EN 40-3-3

The Use of Passive Safety Lighting Columns on Local Roads & Consideration of HA TA 89/05.

EN 55000 – Standards for Asset Management



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