



## **The National BIM Library**

BIM Object Guide: Luminaires and lamps



Version 4

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[www.nationalBIMlibrary.com](http://www.nationalBIMlibrary.com)

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## 1.0 Introduction

This guide covers the use of Luminaires and lamps included within the National BIM Library:

Deep Laser Multiple 2 Optic - Light fittings	iRoll 65 Large Ceiling/Wall-mounted - Ceiling Down Light
Deep Laser Multiple 3 Optic- Light fittings	iRoll 65 Large Ceiling/Wall-mounted - Wall Down Light
Deep Laser Round Large Frame Fluorescent - Light fittings	iRoll 65 Large Ceiling/Wall-mounted - Wall Up/Down Light
Deep Laser Round Large Frame LED - Light fittings	iRoll 65 Micro Ceiling/Wall-mounted - Ceiling Down Light
Deep Laser Round Large Minimal Fluorescent - Light fittings	iRoll 65 Micro Ceiling/Wall-mounted - Wall Down Light
Deep Laser Round Large Minimal LED - Light fittings	iRoll 65 Micro Ceiling/Wall-mounted - Wall Up/Down Light
Deep Laser Round Medium Frame Fluorescent - Light fittings	iRoll 65 Mini Ceiling/Wall-mounted - Ceiling Down Light
Deep Laser Round Medium Frame LED - Light fittings	iRoll 65 Mini Ceiling/Wall-mounted - Wall Down Light
Deep Laser Round Medium Minimal Fluorescent - Light fittings	iRoll 65 Mini Ceiling/Wall-mounted - Wall Up/Down Light
Deep Laser Round Medium Minimal Fluorescent - Light fittings	iRoll 65 Small Ceiling/Wall-mounted - Ceiling Down Light
Deep Laser Round Small Frame LED - Light fittings	iRoll 65 Small Ceiling/Wall-mounted - Wall Down Light
Deep Laser Square Large Frame Fluorescent - Light fittings	iRoll 65 Small Ceiling/Wall-mounted - Wall Up/Down Light
Deep Laser Square Large Frame LED - Light fittings	Laser Blade Adjustable Double 10 Optic - Light fittings
Deep Laser Square Large Minimal Fluorescent - Light fittings	Laser Blade Adjustable Double 15 Optic - Light fittings
Deep Laser Square Large Minimal LED - Light fittings	Laser Blade Adjustable Single 10 Optic - Light fittings
Deep Laser Square Medium Frame Fluorescent - Light fittings	Laser Blade Adjustable Single 15 Optic - Light fittings
Deep Laser Square Medium Frame LED - Light fittings	Laser Blade General Lighting 10 Optic - Light fittings
Deep Laser Square Medium Minimal Fluorescent - Light fittings	Laser Blade General Lighting 15 Optic - Light fittings
Deep Laser Square Medium Minimal LED - Light fittings	Laser Blade General Lighting 5 Optic - Light fittings
Deep Laser Square Small Frame LED - Light fittings	Laser Blade High Contrast Frame 1 Optic - Light fittings
iN 30 Ceiling-mounted High Contrast - Lighting	Laser Blade High Contrast Frame 10 Optic - Light fittings
iN 30 Ceiling-mounted Low Contrast - Angular LED Lighting	Laser Blade High Contrast Frame 15 Optic - Light fittings
iN 30 Ceiling-mounted Low Contrast - Angular Microprismatic - Lighting	Laser Blade High Contrast Frame 2 Optic - Light fittings
iN 30 Ceiling-mounted Low Contrast - Angular Opal - Lighting	Laser Blade High Contrast Frame 5 Optic - Light fittings
iN 30 Ceiling-mounted Low Contrast - Continuous LED Lighting	Laser Blade High Contrast Minimal 1 Optic - Light fittings
iN 30 Ceiling-mounted Low Contrast - Continuous Microprismatic - Lighting	Laser Blade High Contrast Minimal 10 Optic - Light fittings
iN 30 Ceiling-mounted Low Contrast - Continuous Opal - Lighting	Laser Blade High Contrast Minimal 15 Optic - Light fittings
iN 30 Ceiling-mounted Low Contrast - Initial LED - Lighting	Laser Blade High Contrast Minimal 2 Optic -
iN 30 Ceiling-mounted Low Contrast - Initial	

<b>Microprismatic - Lighting</b>	<b>Light fittings</b>
<b>iN 30 Ceiling-mounted Low Contrast - Initial</b>	<b>Laser Blade High Contrast Minimal 5 Optic -</b>
<b>Opal - Lighting</b>	<b>Light fittings</b>
<b>iN 60 Ceiling-mounted - LED Angular</b>	<b>Laser Blade L High Contrast Frame 1 Optic -</b>
<b>Lighting</b>	<b>Light fittings</b>
<b>iN 60 Ceiling-mounted - LED Continuous</b>	<b>Laser Blade L High Contrast Frame 2 Optic -</b>
<b>Lighting</b>	<b>Light fittings</b>
<b>iN 60 Ceiling-mounted - LED Initial Lighting</b>	<b>Laser Blade L High Contrast Frame 3 Optic -</b>
<b>iN 60 Ceiling-mounted - Minimal</b>	<b>Light fittings</b>
<b>Fluorescent Angular Lighting</b>	<b>Laser Blade L High Contrast Minimal 1 Optic -</b>
<b>iN 60 Ceiling-mounted - Minimal</b>	<b>Light fittings</b>
<b>Fluorescent Continuous Lighting</b>	<b>Laser Blade L High Contrast Minimal 2 Optic -</b>
<b>iN 60 Ceiling-mounted - Minimal</b>	<b>Light fittings</b>
<b>Fluorescent Initial Lighting</b>	<b>Laser Blade L High Contrast Minimal 3 Optic -</b>
<b>iN 60 Pendant - LED Angular Lighting</b>	<b>Light fittings</b>
<b>iN 60 Pendant - LED Continuous Lighting</b>	<b>Laser Blade System 53 - Adjustable High</b>
<b>iN 60 Pendant - LED Initial Lighting</b>	<b>Contrast 10 Optic - Lighting</b>
<b>iN 60 Pendant - Minimal Fluorescent</b>	<b>Laser Blade System 53 - Adjustable High</b>
<b>Angular Lighting</b>	<b>Contrast 15 Optic - Lighting</b>
<b>iN 60 Pendant - Minimal Fluorescent</b>	<b>Laser Blade System 53 - Adjustable High</b>
<b>Continuous Lighting</b>	<b>Contrast 5 Optic - Lighting</b>
<b>iN 60 Pendant - Minimal Fluorescent Initial</b>	<b>Laser Blade System 53 - Adjustable Spotlight -</b>
<b>Lighting</b>	<b>Lighting</b>
<b>iN 60 Recessed Frame Fluorescent -</b>	<b>Laser Blade System 53 - Fixed High Contrast -</b>
<b>Angular Ceiling Lighting</b>	<b>Lighting</b>
<b>iN 60 Recessed Frame Fluorescent -</b>	<b>Laser Blade System 53 - Fixed Low Contrast -</b>
<b>Angular Wall Lighting</b>	<b>Lighting</b>
<b>iN 60 Recessed Frame Fluorescent -</b>	<b>Laser Blade System 53 - Wall Washer 10 Optic -</b>
<b>Continuous Lighting</b>	<b>Lighting</b>
<b>iN 60 Recessed Frame Fluorescent - Initial</b>	<b>Laser Blade System 53 - Wall Washer 15 Optic -</b>
<b>Lighting</b>	<b>Lighting</b>
<b>iN 60 Recessed Frame LED Angular</b>	<b>Laser Blade Wall Washer 10 Optic - Light fittings</b>
<b>Lighting</b>	<b>Laser Blade Wall Washer 15 Optic - Light fittings</b>
<b>iN 60 Recessed Frame LED Initial Lighting</b>	<b>Laser Blade Wall Washer 5 Optic - Light fittings</b>
<b>iN 60 Recessed Frame LED Lighting</b>	<b>Pixel Pro - Frame 1 Optic Active - Lighting</b>
<b>iN 60 Recessed Minimal Fluorescent</b>	<b>Pixel Pro - Frame 1 Optic Passive- Lighting</b>
<b>Angular - Light fittings</b>	<b>Pixel Pro - Frame 2 Optic Active - Lighting</b>
<b>iN 60 Recessed Minimal Fluorescent</b>	<b>Pixel Pro - Frame 2 Optic Passive - Lighting</b>
<b>Continuous - Light fittings</b>	<b>Pixel Pro - Frame 3 Optic - Passive</b>
<b>iN 60 Recessed Minimal Fluorescent Initial</b>	<b>Pixel Pro - Frame 3 Optic Active - Lighting</b>
<b>- Light fittings</b>	<b>Pixel Pro Large Passive - Lighting</b>
<b>iN 60 Recessed Minimal LED Angular -</b>	<b>Pixel Pro Medium Active - Lighting</b>
<b>Light fittings</b>	<b>Pixel Pro Medium Passive - Lighting</b>
<b>iN 60 Recessed Minimal LED Continuous -</b>	<b>Pixel Pro Small Active - Lighting</b>
<b>Light fittings</b>	<b>Pixel Pro Small Passive - Lighting</b>
<b>iN 60 Recessed Minimal LED Initial - Light</b>	<b>Plafoniere Bos Wall/Ceiling</b>
<b>fittings</b>	<b>Reflex Easy Round Double Asymmetric -</b>
<b>iN 60 Wall-mounted Minimal Fluorescent</b>	<b>Lighting</b>
<b>Angular Lighting</b>	<b>Reflex Easy Round Double General Lighting -</b>
<b>iN 60 Wall-mounted Minimal Fluorescent</b>	<b>Lighting</b>
<b>Continuous Lighting</b>	<b>Reflex Easy Round Luminance Control Optic -</b>
<b>iN 60 Wall-mounted Minimal Fluorescent</b>	<b>Lighting</b>
<b>Initial Lighting</b>	<b>Reflex Easy Round Wall Washer - Lighting</b>
<b>iN 60 Wall-mounted Minimal LED Angular</b>	<b>Reflex Easy Square General Lighting</b>
<b>Lighting</b>	<b>Reflex Easy Square Luminance Control Optic -</b>
<b>iN 60 Wall-mounted Minimal LED</b>	<b>Lighting</b>
<b>Continuous Lighting</b>	
<b>iN 60 Wall-mounted Minimal LED Initial</b>	
<b>Lighting</b>	
<b>iPlan Easy Rectangular Ceiling-mounted</b>	

**iPlan Easy Rectangular Recessed**  
**iPlan Easy Square Ceiling-mounted**  
**iPlan Easy Square Recessed**  
**iPlan LED Floor Lamp**  
**iPlan LED Rectangular Ceiling/Wall**  
**iPlan LED Rectangular Pendant**  
**iPlan LED Rectangular Recessed**  
**iPlan LED Square Ceiling/Wall**  
**iPlan LED Square Pendant**  
**iPlan LED Square Recessed**

## 1.1 Naming

National BIM Library objects are named to identify their type and configuration. Fields are segregated using an underscore (\_) and information within each field is segregated using hyphens (-). Fields are abbreviated to reduce characters and capitals used at the start of each abbreviation to aid readability.

File name and objects are named as below:

### File name

**Field1** *Author\_***Field2** *Category\_***Field3** *Manufacturer\_***Field4** *Product Range*

### Object

**Field1** *Author\_***Field2** *Category***Field3** *Manufacturer\_***Field4** *Product\_***Field5** *Differentiator*

## 2.0 Parameters

Parameters included in the BIM object are as follows:

### 2.1 NBS\_General

<b>Author</b>	The name of the BIM objects Author.
<b>BIMObjectName</b>	Name of the BIM object as it will appear in software. Using NBL naming procedure.
<b>ManufacturerURL</b>	The BIM object shall include a 'ManufacturerURL' property completed with a valid uniform resource locator (URL) hyperlink to the manufacturer's website. If the value is not known or not available, the property shall be completed with 'n/a'. For generic objects the value shall be completed with 'n/a'.
<b>NBSCertification</b>	A URL linking to the specific version of the NBS BIM Standard against which the object has been certified.
<b>NBSDescription</b>	The BIM object shall include a 'NBSDescription' property completed with an alphanumeric value of the appropriate NBS clause title from <a href="http://www.nationalbimlibrary.com/api/">http://www.nationalbimlibrary.com/api/</a> . If the value is not known or not available, the property shall be completed with 'n/a'.
<b>NBSReference</b>	The BIM object shall include a 'NBSReference' property completed with an alphanumeric value of the appropriate NBS clause reference from <a href="http://www.nationalbimlibrary.com/api/">http://www.nationalbimlibrary.com/api/</a> . The clause reference shall be in the format xx-yy-zz/nnn where xx-yy-zz is the NBS section code and nnn is the 3 digit NBS clause number.
<b>NBSNote</b>	Where a second system which is related to the BIMObject can be described.
<b>NBSOfficeMasterTag</b>	A reference to the object for the user if linked to an NBS Create office master clause tag.
<b>NBSTypeID</b>	A reference to the object for the user if one or more is used within the project.
<b>ProductInformation</b>	<p>The BIM object shall include a 'ProductInformation' property completed with:</p> <ul style="list-style-type: none"><li>• a valid uniform resource locator (URL) hyperlink to further</li></ul>

product information, such as Technical documentation, installation guides, certificates, product catalogues or literature,

- an alphanumeric value of a description of the location, where the document can be found.

If the value is not known or not available, the property shall be completed with 'n/a'. For generic objects the value shall be completed with 'n/a'.

**Revision**

The BIM object shall include a 'Revision' property for completion within the project environment set with the default value 'n/a'.

**Uniclass2**

The BIM object shall include a 'Uniclass2' property. The value shall be completed with an alphanumeric value of the appropriate Uniclass2 classification code and description. If a suitable Uniclass2 classification and description is not available, the value shall be completed with 'n/a'

**Version**

The BIM object shall include a 'Version' property completed with a numerical value, stated as a whole number, representing the sequence of the object publication.



## 2.2 NBS\_Data

<b>BallastsCELMAEnergyEfficiencyIndex</b>	Minimum class in accordance with CELMA energy efficiency index of corrected total input power of the lamp-ballast circuit.
<b>ControlGearPosition</b>	Location of control gear.
<b>InternalFuse</b>	Whether there is an internal fuse.
<b>LampColourRenderingIndex</b>	Colour rendering index of lamps.
<b>LampRating</b>	Lamp rating measured in [W].
<b>LampType</b>	Luminaire lamp code in accordance with LBS or International Lamp Coding System (ILCOS).
<b>LightSource</b>	The type of light source in product.
<b>LuminairePowerFactor</b>	Details of luminaire power factor.
<b>LuminaireType</b>	Type of luminaire.
<b>Optic</b>	The type of light distribution. Can be measured in degrees and/or with an abbreviation.
<b>PhotometricPerformance</b>	Photometric performance in accordance with BS EN 13032-1.
<b>SupplyCircuitConductorConnections</b>	Connection details of supply circuit conductor.

## 2.3 IFC

Note: IFC definitions have been obtained from BuildingSmart IFC2x3 website (<http://buildingsmart-tech.org>).

<b>ArticleNumber</b>	The article number.
<b>ElectricalDeviceNominalPower</b>	The output power rating that is certified for a device.
<b>HasProtectiveEarth</b>	Indicates whether the electrical device has a protective earth connection (=TRUE) or not (= FALSE).
<b>InsulationStandardClass</b>	Insulation standard classes provides basic protection information against electric shock. Defines levels of insulation required in terms of constructional requirements (creepage and clearance distances) and electrical requirements (compliance with electric strength tests). Basic insulation is considered to be shorted under single fault conditions. The actual values required depend on the working voltage to which the insulation is subjected, as well as other factors. Also indicates whether the electrical device has a protective earth connection.
<b>IP_Code</b>	IEC 529 (1989) Classification of degrees of protection provided by enclosures (IP Code).
<b>LightFixtureMountingType</b>	A list of the available types of mounting for light fixtures from which that required may be selected.
<b>LightFixturePlacingType</b>	A list of the available types of placing specification for light fixtures from which that required may be selected.
<b>MaintenanceFactor</b>	The arithmetical allowance made for depreciation of lamps and reflective equipment from their initial values due to dirt, fumes, or age.
<b>ManufacturersSpecificInformation</b>	Manufacturer specific information.
<b>NominalCurrent</b>	The maximum allowed current that a device is certified to handle.
<b>NominalFrequencyRange</b>	The upper and lower limits of frequency for which the operation of the device is certified.

<b>NominalVoltage</b>	The range of allowed voltage that a device is certified to handle. The upper bound of this value is the maximum.
<b>NumberOfPoles</b>	The number of logical connections that can be made on an electrical device.
<b>NumberOfSources</b>	Number of sources.
<b>PhaseAngle</b>	The angular difference between two waveforms of the same frequency.
<b>PhaseReference</b>	The phase identification used for the device electrical input. This should be the same phase identifier that is used for the conductor segment providing the electrical service to the device. In general, it is recommended that IEC recommendations for phase identification are used (L1, L2 etc.). However, other phase identifiers may be used such as by color (Red, Blue, Yellow) or by number (1, 2, 3) etc.
<b>TotalWattage</b>	Wattage on whole light fitting device with all sources intact.
<b>UsageCurrent</b>	The current that a device is actually handling or is calculated to be handling at a point in time.

## 2.4 COBie

The following COBie parameters have been included within the Luminaires and lamps BIM object and can be used to prepare COBie data schedules:

<b>AccessibilityPerformance</b>	Accessibility issue(s) which the product satisfies.
<b>AssetIdentifier</b>	The asset identifier assigned to an occurrence of a product (prior to handover).
<b>BarCode</b>	The identity of the bar code (or rfid) given to an occurrence of the product.
<b>CodePerformance</b>	Code Compliance requirement(s) which the product satisfies.
<b>Colour</b>	Characteristic or primary colour of product.
<b>Constituents</b>	Optional constituent features, parts or finishes.
<b>Cost</b>	Cost impact of replacement process.
<b>Documentation</b>	Location (Uniform Resource Information) for further product information.
<b>DocumentReference</b>	Location (Uniform Resource Information) for the source or updates to this product information.
<b>Features</b>	Features or other important characteristics relevant to product specification.
<b>Finish</b>	Characteristic or primary finish of product.
<b>Grade</b>	Standard grading(s) to which the product corresponds.
<b>InstallationDate</b>	The date that the manufactured item was installed.
<b>LifeCyclePhase</b>	Life Cycle Phase as defined in ISO 15978.
<b>Manufacturer</b>	The organization that manufactured or assembled the item.
<b>Material</b>	Main material of the covering.
<b>MethodOfMeasurement</b>	Method of measurement.
<b>ModelLabel</b>	The model number assigned by manufacturer.

<b>ModelReference</b>	The name used by the manufacturer.
<b>NominalHeight</b>	Nominal height of product, typically the vertical or secondary characteristic dimension.
<b>NominalLength</b>	Nominal length of product, typically the larger or primary horizontal dimension.
<b>NominalWidth</b>	Nominal width of product, typically the characteristic or secondary horizontal or characteristic dimension.
<b>Process</b>	Specification of process.
<b>ProductionYear</b>	The year of production for the manufactured item.
<b>ReferenceStandard</b>	Reference standard(s) to which the product is compliant.
<b>ReplacementCost</b>	An indicative cost for unit replacement.
<b>SerialNumber</b>	The serial number assigned to an occurrence of a product by the manufacturer.
<b>ServiceLifeDuration</b>	The length or duration of a service life.
<b>ServiceLifeType</b>	The typical service life that is quoted for an artefact under reference operating conditions.
<b>Shape</b>	Characteristic shape of product.
<b>Size</b>	Characteristic size of product.
<b>SustainabilityPerformance</b>	Sustainability issue(s) which the product satisfies.
<b>TagNumber</b>	The tag number assigned to an occurrence of a product.
<b>WarrantyDescription</b>	Description of the warranty.
<b>WarrantyDurationLabour</b>	Duration of labour warranty (years).
<b>WarrantyDurationParts</b>	Duration of parts warranty (years).
<b>WarrantyGuarantorLabour</b>	Organization acting as guarantor of labour warranty.
<b>WarrantyGuarantorParts</b>	Organization acting as guarantor of parts warranty.
<b>WarrantyStartDate</b>	The date on which the warranty commences.

### **3.0 Abbreviations**

<b>nbl</b>	national BIM library
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