

CBD ACCREDITED ASSESSOR TRAINING COURSE



Australian Government
Department of Industry, Science,
Energy and Resources



COMMERCIAL
BUILDING DISCLOSURE
A National Energy Efficiency Program

Housekeeping

Topics Covered Today

01. Background on CBD
02. Tenancy Lighting Assessments
03. Exemptions
04. Becoming a CBD Accredited Assessor

Topic 1

Background

In this section, you'll learn to:

- Explain why we need the Commercial Building Disclosure program
- Describe the scope of the program
- Describe the legal basis for the program

What is the CBD Program?

- Established under the Building Energy Efficiency Disclosure Act 2010
- Mandates disclosure of energy efficiency info for office buildings at sale or lease
- Aims to inform buyers, tenants, sub-tenants: empowers them to choose efficient buildings
- Managed by the Department of Industry, Science, Energy and Resources.

Legal requirements

- Under the Building Energy Efficiency Disclosure (BEED) Act 2010:
- A Building Energy Efficiency Certificate (BEEC) is needed for most offices of 1000m² or more before going to market for sale, lease or sub-lease.
- The NABERS Energy rating must be included on all advertising material.


FOR SALE


Smith-Jones
Real Estate


Let's do a deal

- Up to 5,500m²
- Flexible fitted out space
- Basement car parking
- 2.5-star NABERS Energy rating

PHONE 00 1234 5678
www.example1.com.au
Ground floor, 1-2 Example St, Example City

 **Australian Government**

 **COMMERCIAL
BUILDING DISCLOSURE**
A National Energy Efficiency Program



BUILDING ENERGY EFFICIENCY CERTIFICATE

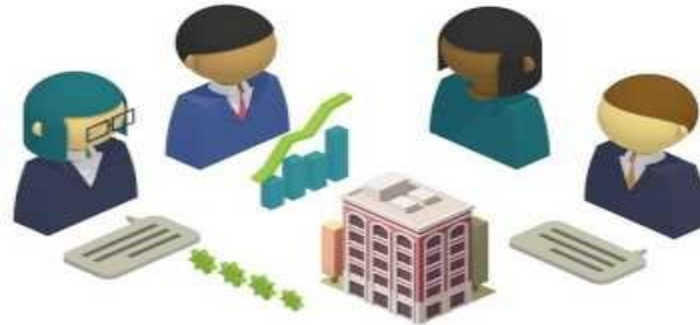
BUILDING DETAILS

Building name	John Gorton Building	Certificate no.	B1928-2016/1
Owner's name	DEPARTMENT OF FINANCE	Current from	06 Oct 2016
Building address	10 Parkes Place, Parkes, ACT, 2600	Current to	23 Sep 2017
Net Lettable Area of the building	33,125.0 m ²	CBD assessor name	Russell Hookway
		CBD assessor no.	CBDA0244

What's on the BEEC?

- Part 1 - Base/whole building NABERS Energy rating, excluding Greenpower
- Part 2 - Tenancy Lighting Assessment (today's focus)
- Let's see an example: <https://www.cbd.gov.au/get-assessed/how/find-rated-building>

CBD video



<https://www.youtube.com/watch?v=HKD0QYLrEbU>

In this section, you learnt to:

- Explain why we need the Commercial Building Disclosure program ✓
- Describe the scope of the program ✓
- Describe the legal basis for the program ✓

Topic 2

Tenancy Lighting Assessments (TLAs)

In this section, you'll learn to:

- Describe what's in the TLA
- Identify the types of spaces and lighting systems covered by the TLA
- Do a TLA:
 - Define and name the Functional spaces
 - List the luminaires
 - Assess the Nominal Lighting Power Density
 - Assess the lighting controls

What is a CBD Tenancy Lighting Assessment (TLA)?

- Only CBD Accredited Assessors can do TLAs
- CBD Assessor surveys the office tenancies according to the CBD Tenancy Lighting Assessment for Offices Rules
- The survey covers:
 - Nominal Lighting Power Density (NLPD)
 - Lighting control arrangements
 - Each functional space is assessed separately

General Lighting System (GLS)

- Basis for assessing the NLPD
- Lights the workstation areas
- May include “base building” and “fit-out” fittings
- Not desktop task lights, display lights, exit lights
- However, sometimes feature lights, cell offices, meeting room lights etc are assessed (more on that later).

Group Activity – General Lighting System

- Identify the general lighting system from the following photos and plans:
- 1.



Group Activity – General Lighting System

- Identify the general lighting system from the following photos and plans:
- 2.



Group Activity – General Lighting System

- Identify the general lighting system from the following photos and plans:
- 3.



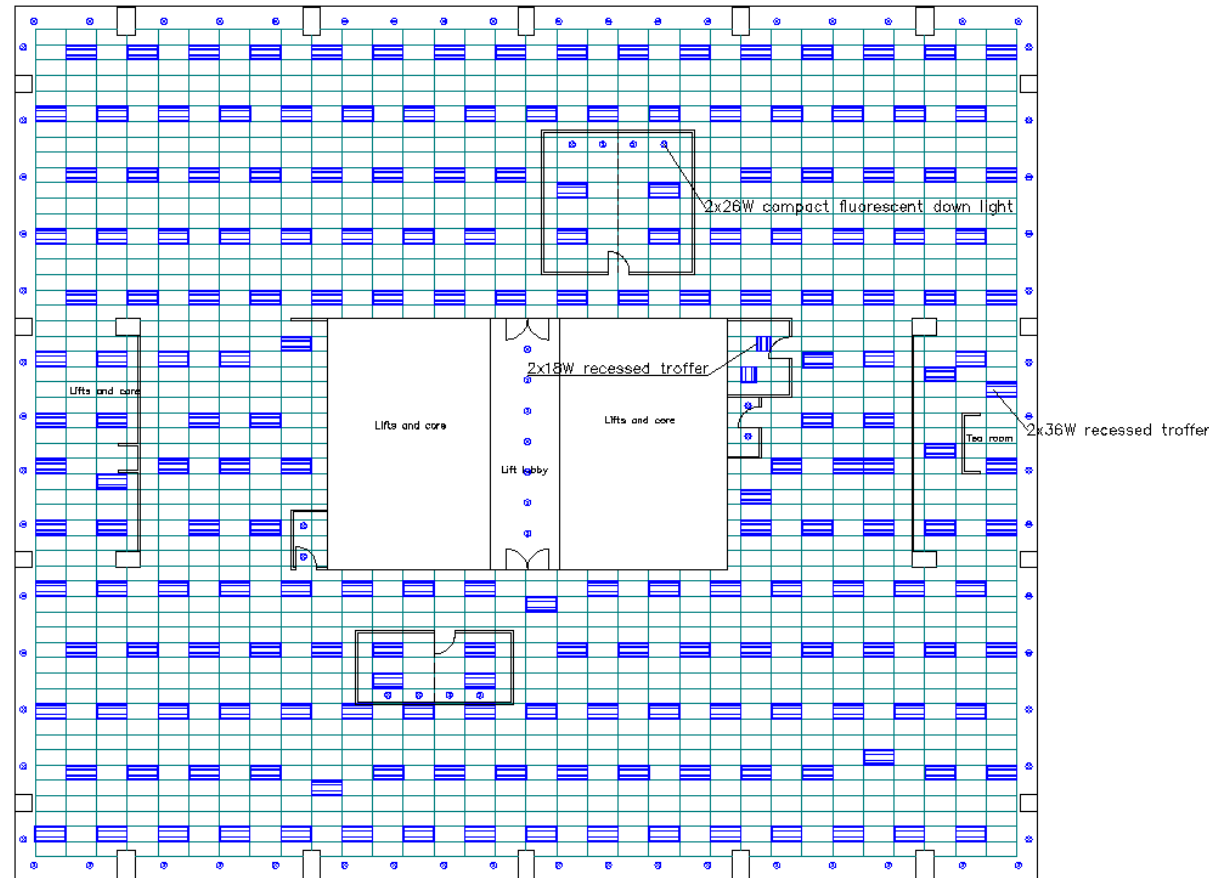
Group Activity – General Lighting System

- Identify the general lighting system from the following photos and plans:
- 4.



Group Activity – General Lighting System

- Identify the general lighting system from the following photos and plans:
- 5.



Nominal Lighting Power Density (NLPD)

- The NLPD is calculated for each Functional Space.
- NLPD relates to the General Lighting System.
- Expressed in Watts per square metre (W/m²)

$$= \frac{\text{Total installed luminaire power (Watts)}}{\text{Area served (m}^2\text{)}}$$

NLPD

4.5 W/m² or less

4.6 to 7.0 W/m²

7.1 to 10.0 W/m²

10.1 to 15.0 W/m²

15.1 to 18.0 W/m²

18.1 W/m² or more

NLPD GRADE

Very efficient

Efficient

Somewhat efficient

Somewhat inefficient

Inefficient

Very inefficient

APPEARANCE ON BEEC

Very efficient

Efficient

Somewhat efficient

Somewhat inefficient

Inefficient

Very inefficient

Lighting Control Systems

- Energy use = Installed power x Running hours
- Effective controls match running hours to need
- Assessed based on capacity not implementation or outcome.

CONTROL CAPACITY GRADE

Good

Moderate

Poor

APPEARANCE ON BEEC

Good

Moderate

Poor

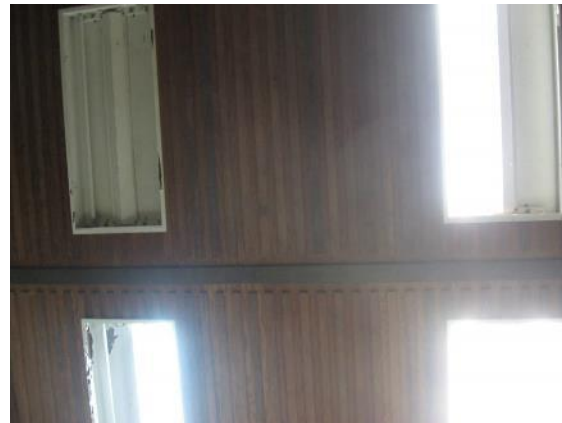
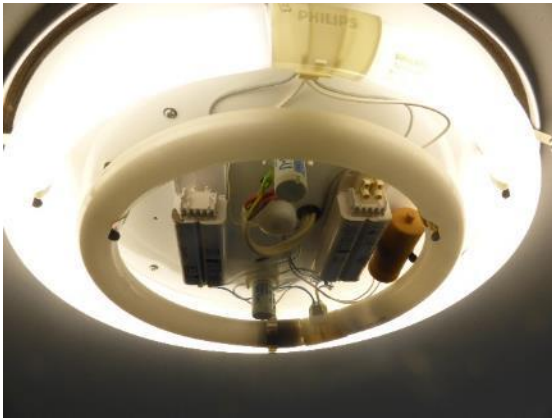
e.g. occupancy controls

e.g. timers or small manual switch zones

e.g. larger manual switch zones

In-scope and out-of-scope items

- **Do not** assess the quality of a luminaire's:
 - Poor optics
 - Dirty / old condition
 - Failed lamps
- **Do not** assess the quantity of light
- **Do** assess the potential energy performance of the lamps (NLPD and controls)



TLA Assessment Area

- The Assessment Area is the office NLA. Vacant tenancies are included.
- TLA Assessment Area \neq NABERS Rated Area
 - Vacancies are treated differently.
 - Non-tenant areas (car parks, toilets) are not part of the rated area or the TLA.

In this section, you've learnt to:

- Describe what's in the TLA ✓
- Identify the types of spaces and lighting systems covered by the TLA ✓
- Do a TLA:
 - **Define and name the Functional spaces**
 - List the luminaires
 - Assess the Nominal Lighting Power Density
 - Assess the lighting controls

We'll learn this next

Do a TLA: Define and name the Functional Spaces

Defining Functional Spaces

- Refer s4.3.1 of the CBD TLA Rules (page 25)
- Each FS is assessed separately, including vacant FSs
- Functional Spaces must be the smaller of:
 - Each whole floor of a building; or
 - Each individual tenancy
- Define the FS area: As defined by the Measurement Standard in the TLA Rules
 - $\pm 5\%$ accuracy is required for areas used in NLPD assessment methods

Non-office areas in Functional Spaces

- Meeting room areas
- Data centres or server rooms
- These can be part of a FS, and don't need to be split out as a separate FSs in the TLA
- They should not be removed from FS area
- CBD Team checks total TLA vs building area

Naming Functional Spaces

- Must be unique
- Must identify:
 - The level of the building
 - Whole floor or part floor
 - Location or suite number (part floor spaces)

Functional Space - 1

[Overview](#) [Current System](#) [Previous](#) [Next](#)

☐ Add Proposed System

Building Prefix

Floor naming convention

Please select ▾

Floor / Level

NLA

Tenant Name

Whole or Part Floor/Level

Please select ▾

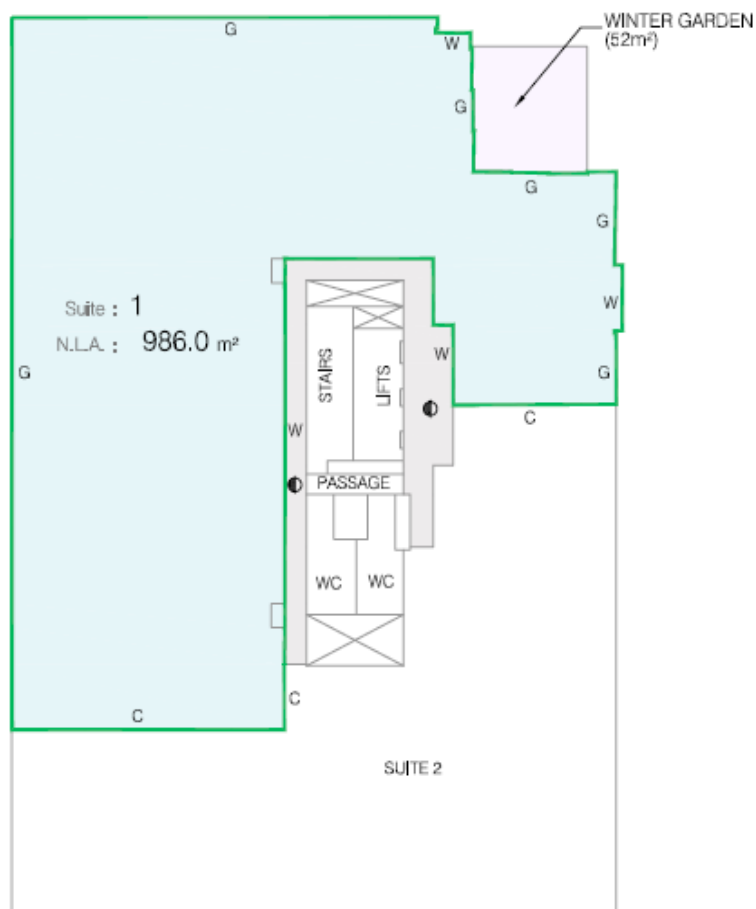
NLA Source

Please select ▾

Which names are acceptable?

Name	OK / Not OK?
Part Level 1 – West Tenancy	✓
Part Level 4 – Suite 4.02	✓
Whole 5 th floor	✓
Whole Level 10 – Tower A	✓
12.03	X
Open office	X
Suite 103	X

Group Activity – Naming Functional Spaces



What are **acceptable** names for the two functional spaces above if they are both on Level 2 of the building and the tenants are Company ABC and Company XYZ?

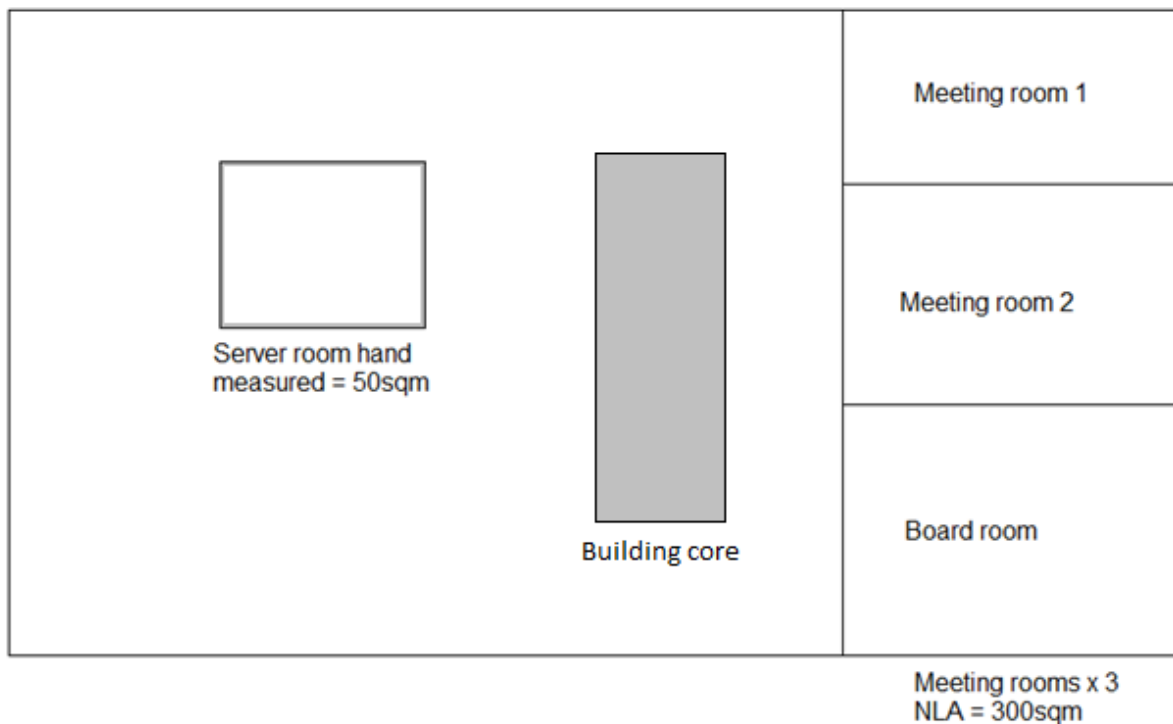
- Level 2, Suite 1 and Level 2, Suite 2
- Level 2 North and Level 2 South

What are **unacceptable** names?

- Anything with the tenant names in them
- Not listing which level they are on/location within building
- 2.1 and 2.2
- 'Open office'

Group Activity – Define functional spaces

Level 1 NLA = 1,200sqm



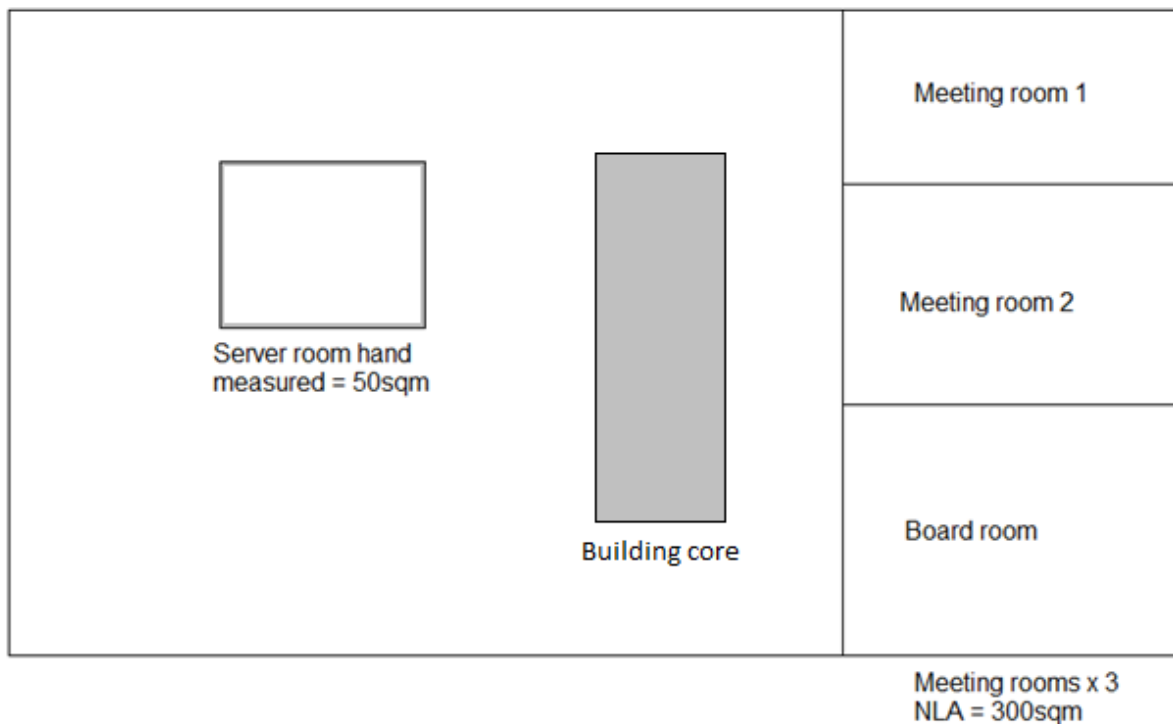
This is Level 1 in an office building, wholly tenanted by Best Tenants Pty Ltd.

What is the correct number of functional spaces to setup in the TLA?

1. Three separate functional spaces defined as Level 1 office, Level 1 server room and Level 1 meeting rooms.
2. Two separate functional spaces defined as Level 1 office and meeting rooms and Level 1 server room.
3. One functional space for the whole floor, Level 1.

Group Activity – Define functional spaces

Level 1 NLA = 1,200sqm



This is Level 1 in an office building, wholly tenanted by Best Tenants Pty Ltd.

Follow up question – What is the correct functional space area?

In this section, you've learnt to:

- Describe what's in the TLA ✓
- Identify the types of spaces and lighting systems covered by the TLA ✓
- Do a TLA:
 - Define and name the Functional spaces ✓
 - **List the luminaires**
 - Assess the Nominal Lighting Power Density
 - Assess the lighting controls

We'll learn this next

Do a TLA: List the luminaires

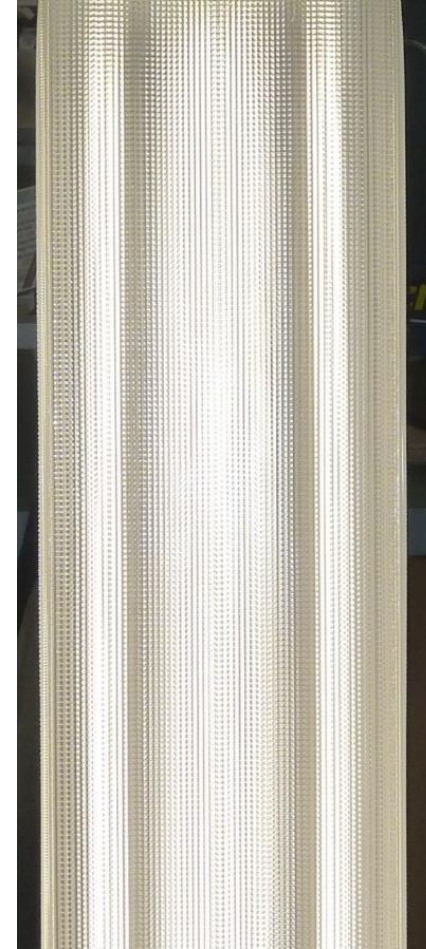
Luminaire Details

- Definitions of terms
- Used for NLPD calculations
- Need to identify all luminaires in the GLS and determine the nominal power consumption of each



Collecting Luminaire Information

- For each GLS luminaire, record:
 - Name
 - Description
 - Lamp and control gear type
 - Number of lamps
 - Nominal lamp power (Watts)

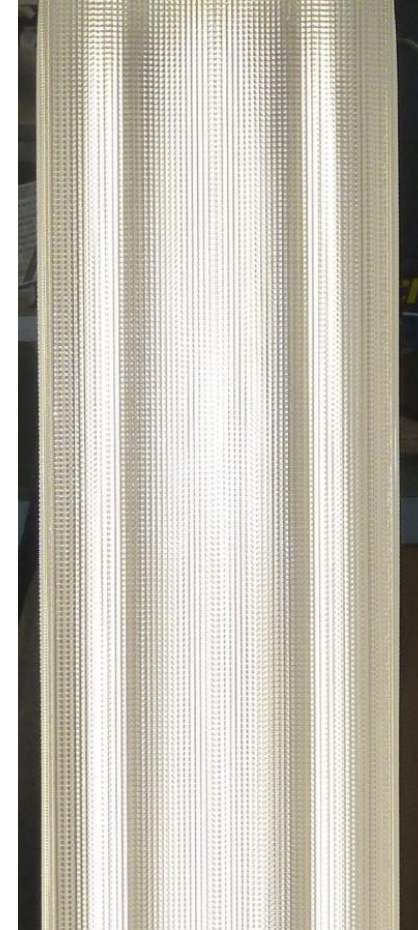


Luminaire Name and Descriptions

- Suggested naming convention (not mandatory)
 - XXabb
 - XX is a luminaire body code (2 or more letters)
 - a is the number of lamps (single digit number)
 - bb is the nominal power of each lamp
- If you need more information, precede with a plus sign
- Examples:
 - RT236 is a 2x36W recessed troffer
 - RT236 + LVR for louvred diffuser
 - LEDPanel54 is a 54W LED panel luminaire

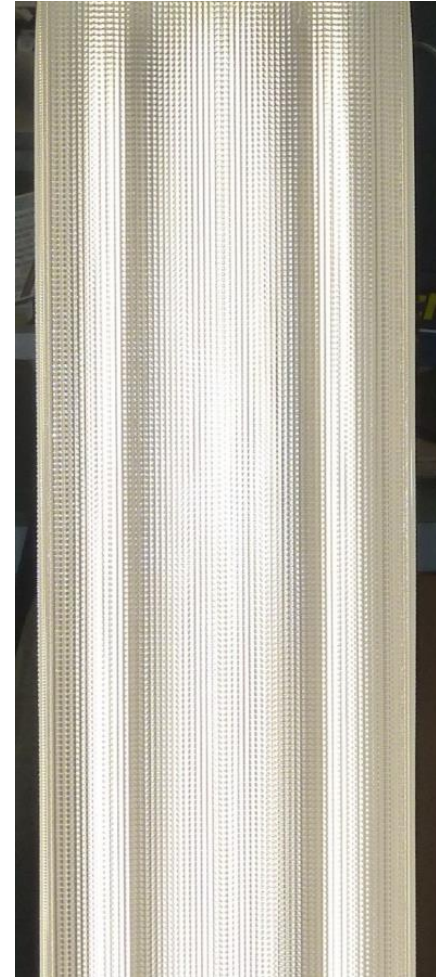
Type and Quantity of Lamps

- How many lamps in this fitting?
 - Physically sight the lamps!!
 - Diffusers and reflectors can mislead
 - LEDs can mimic fluoros: don't assume based on size



Type and Quantity of Lamps

- Recording lamp types:
 - Most common lamp and control gear combos are listed in Assessor Portal
 - 'Other' option can be selected, for lamps not already listed
- Include failed lamps (except deliberate delamping)



Nominal Lamp Power

- Preferred method of identification is visual inspection in-situ
- Otherwise, use replacement stocks or as-installed lists
- Where unsafe to inspect luminaires, use default lamp options (see TLA Rules pg 32)
- Assessors must validate lamp power using methods listed in order of precedence in the Rules



Common Lamp Power Ratings

- 1200mm (~4 feet) T8 lamp – 36W
- 1200 mm (~4 feet) T5 HE lamp – 28W
 - HE = high efficiency
- 1200 mm (~4 feet) T5 HO lamp – 54W
 - HO = high output
- LED strip lights – use W/m^2 and total length for total W
- NLPD uses total luminaire power, including (ballasts or transformers). Portal calculates this automatically for common equipment.

Luminaire Power

- NLPD uses total luminaire power.
- Luminaire power = Lamp + Control gear power
- Control gear: ballasts or transformers
- Portal calculates luminaire power automatically for common equipment, but you need to identify the control gear type.

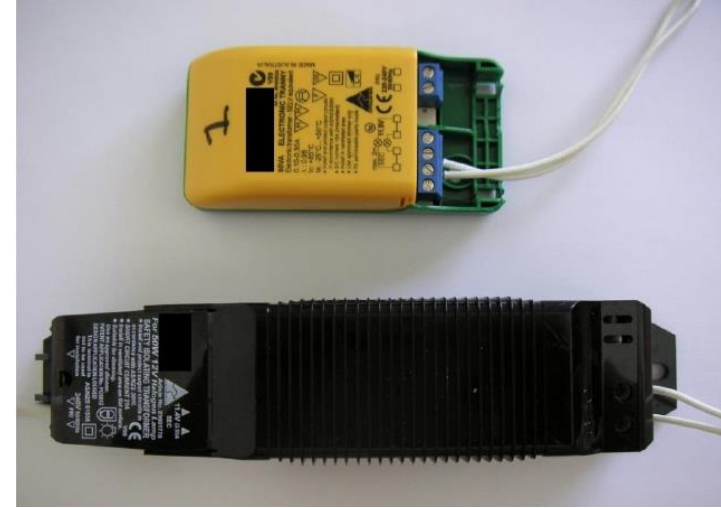
Control Gear – Identifying Ballast Types

- Ballast controls the current in fluoro and HID lights
- Use a ballast discriminator
 - Usually:
 - RED** = magnetic ballast
 - GREEN** = electronic ballast
- Look up lamp model
- Inspect and photograph lamp connection (e.g. starter)
- T5 – electronic only



Control Gear – Identifying Transformer Types

- ELV halogen lamps
- Visual inspection preferred
 - Magnetic – larger, heavier
 - Electronic – smaller, details written on transformer
- When identifying ELV halogen lamp transformers, a ballast discriminator not permitted – too unreliable



Total Luminaire Power

TLA Rules: Appendix C

LAMP TYPE	TOTAL LUMINAIRE POWER (PER LAMP, IN WATTS)	
	Electronic Ballast	Magnetic Ballast
Linear fluorescent T12	N/A	$1.2 \times \text{NLP} + 2.6$
Linear fluorescent T8	$0.9 \times \text{NLP} + 2.6$	$1.16 \times \text{NLP} + 2.6$
Linear fluorescent T5 HE	$1.09 \times \text{NLP} + 0.3$	N/A
Linear fluorescent T5 HE Eco	$\text{NLP} + 0.5$	N/A
Linear fluorescent T5 HO	$1.13 \times \text{NLP} - 1.8$	N/A
Linear fluorescent T5 HO Eco	$1.08 \times \text{NLP} - 4$	N/A
CFL-n	$1.06 \times \text{NLP}$	$1.19 \times \text{NLP} + 2.3$
CFL-i	NLP	
Incandescent / halogen – mains voltage	NLP	
Incandescent / halogen – low voltage	$1.02 \times \text{NLP} + 1.2$	$1.09 \times \text{NLP} + 4.9$
Metal halide	$1.05 \times \text{NLP} + 6$	$1.11 \times \text{NLP} + 1.6$
Mercury vapour	$1.1 \times \text{NLP} + 10$	
LED DL	NLP	
LED Linear Fluorescent Retrofit	NLP	
LED Panel	NLP	
LED Strip Light	NLP	
LED Track Light	NLP	

NLP = nominal lamp power

Special Cases

- Voltage reduction devices or dimmers:
 - Assess as if no voltage reduction device or dimmer were present
- T5 adapters
 - Assess as per T5 lamp of same type
 - Add performance comment 'T5 Adapters used'



Special Cases, continued

- “Other” lamp types
 - Directly measure luminaire power e.g. via plug in meter
 - Or take from catalogue / nameplate
 - Engage specialist trades person if required

Safe Work Methods

- Assessors are responsible for working safely (think about yourself and others)
- Avoid:
 - Handling energised lamps or luminaires
 - Standing on chairs or desks to reach luminaires
 - Using a stick or pole to lift up diffusers in luminaires
 - Opening live switchboards or lighting control systems
- Where inspection is not safe, defaults may be used
 - Conservative Figures. (see page CBD TLA Rules page 31 - Table 2: Default Lamp Values)

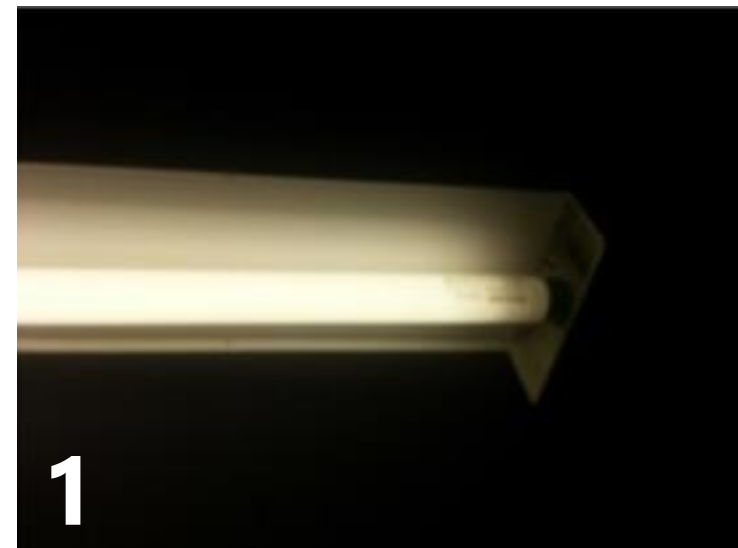
Luminaires – Documentation Requirements

TLA Rules: s5.6 page 37 - 38

- Photos of each luminaire depicting lamp type, lamp power, number of lamps and control gear
 - AND/OR
- As installed equipment lists or replacement lamp photos
 - AND/OR
- Results of individual luminaire power tests

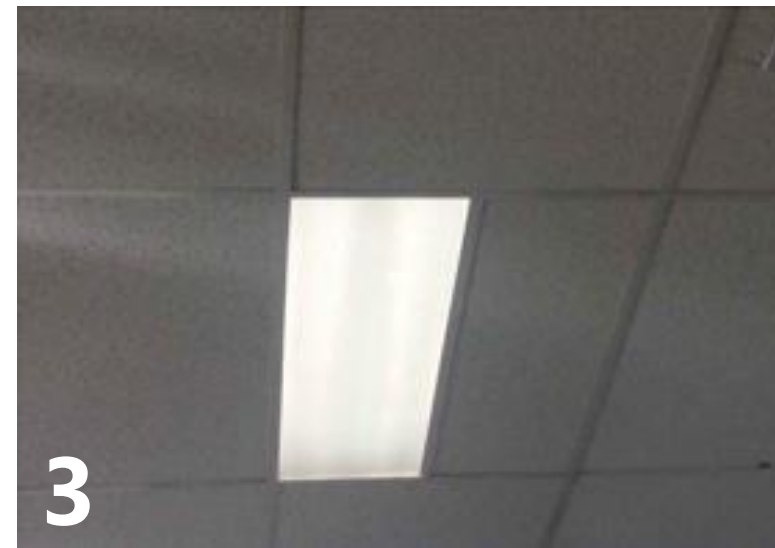
Group Activity - Luminaires

- Identify and name the luminaires shown in each of the photographs provided
- Try to identify
 - Luminaire type
 - Lamp power
 - Control gear type
 - Any additional information needed to work out total luminaire power
- See Appendix B: Common Lamp Types (pg. 65)
- See Appendix G: Examples of photographic evidence (pg. 96)



Group Activity - Luminaires

- Identify and name the luminaires shown in each of the photographs provided
- Try to identify
 - Luminaire type
 - Lamp power
 - Control gear type
 - Any additional information needed to work out total luminaire power
- See Appendix B: Common Lamp Types (pg. 65)
- See Appendix G: Examples of photographic evidence (pg. 96)



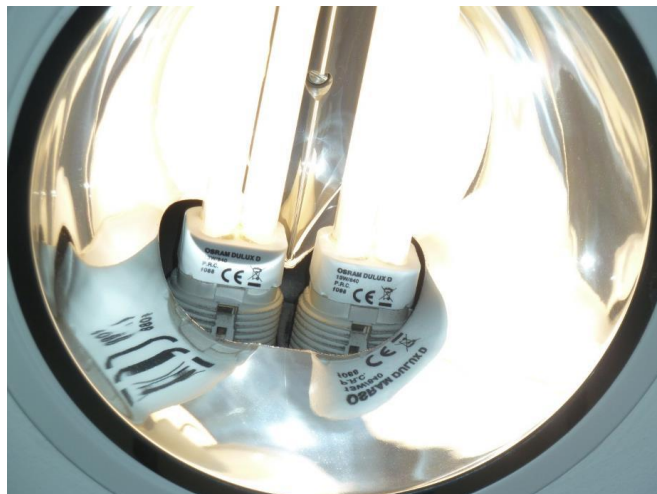
Group Activity – Identify Luminaires

- Identify and name the luminaires shown in each of the photographs provided
- Try to identify
 - Luminaire type
 - Lamp power
 - Control gear type
 - Any additional information needed to work out total luminaire power
- See Appendix B: Common Lamp Types (pg. 65)
- See Appendix G: Examples of photographic evidence (pg. 96)



Group Activity - Identify Luminaires

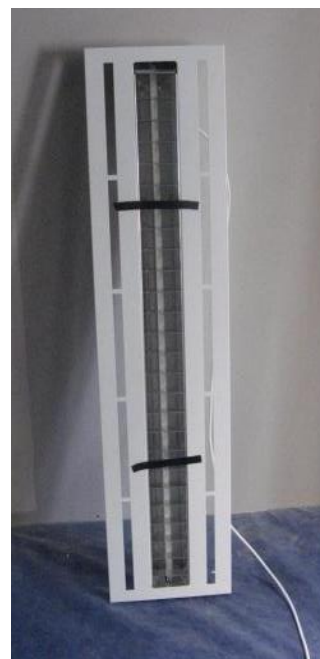
7



8



9



In this section, you've learnt to:

- Describe what's in the TLA ✓
- Identify the types of spaces and lighting systems covered by the TLA ✓
- Do a TLA:
 - Define and name the Functional spaces ✓
 - List the luminaires ✓
 - **Assess the Nominal Lighting Power Density**
 - Assess the lighting controls

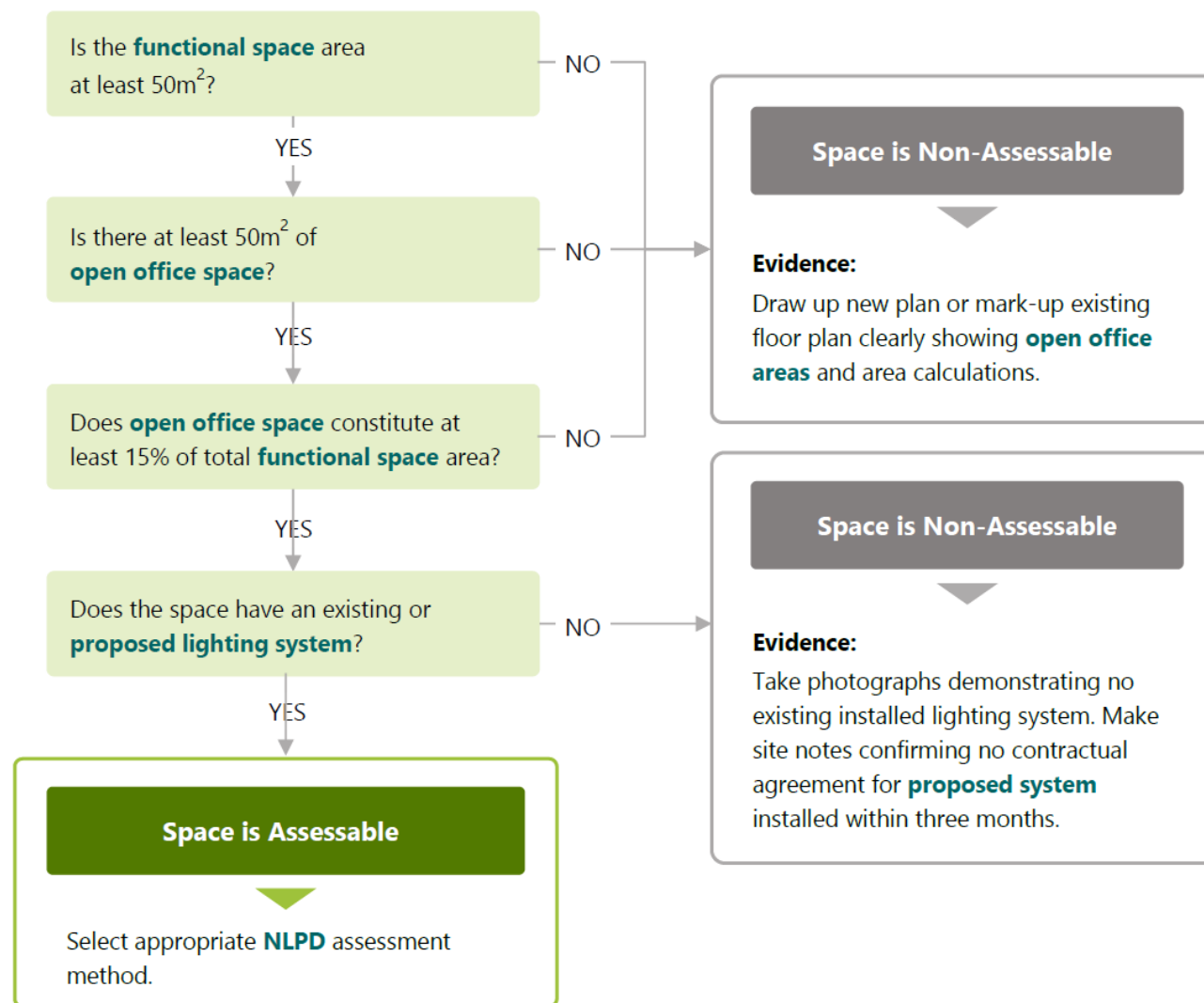
We'll learn this next

Do a TLA: Assess the Nominal Lighting Power Density (NLPD)

Assessing NLPD

- Step 1: Is the Functional Space Assessable?
- Step 2: Choose one of the four assessment methods:
 - Grid Method – for open office spaces with a regular repeating grid
 - Aggregate Methods 1, 2 or 3 – increasingly flexible methods for more complex installations

Step 1: Is the Functional Space Assessable?



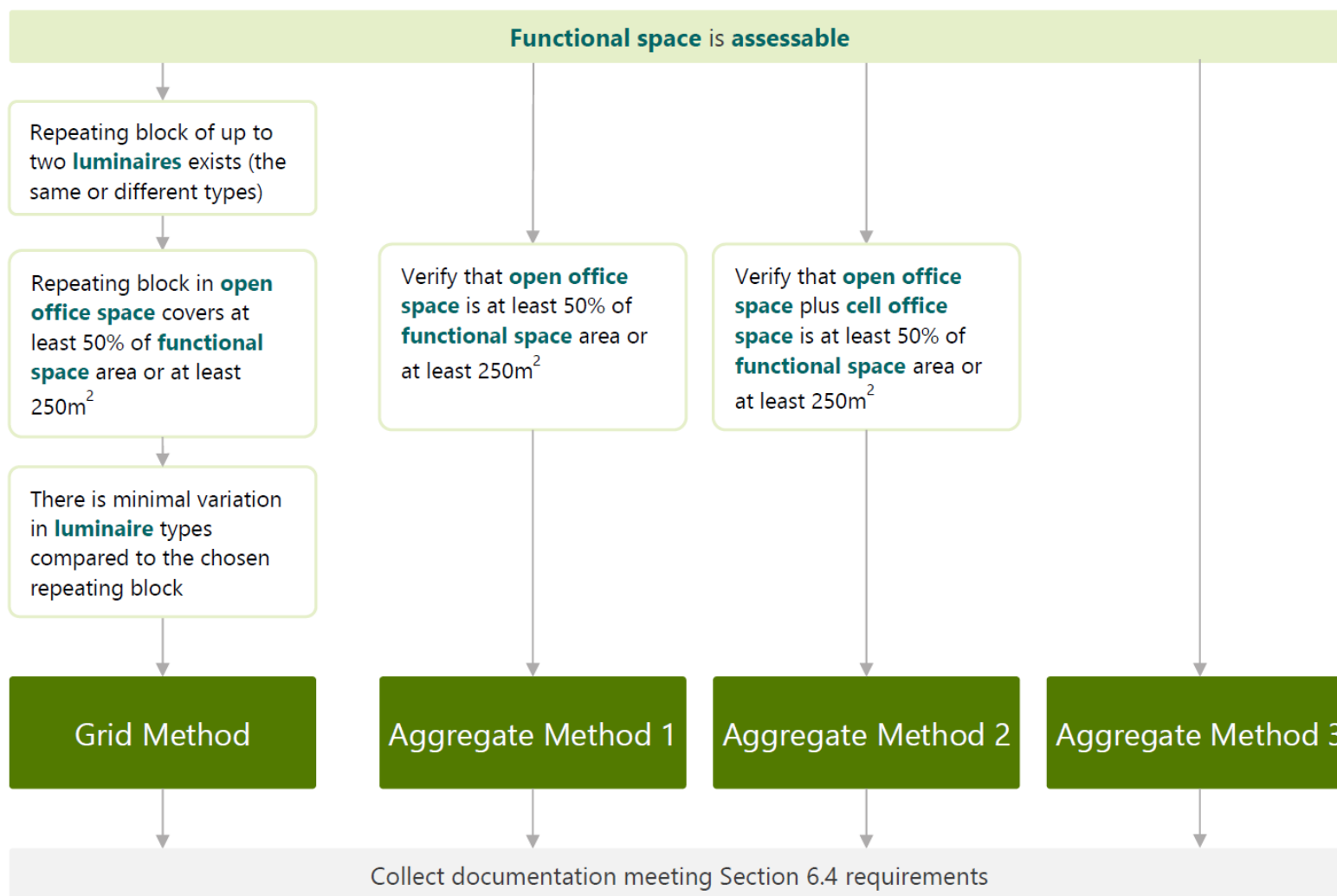
Step 1: Is the Functional Space Assessable?

- Non-Assessable spaces
 - Strict Criteria have to be met and are subject to the discretion of the CBD Administrator
- A space may be deemed Non-Assessable if it is:
 - Use by Police or Security Agencies, OR
 - The space cannot be assessed for technical reasons, justified by the Assessor
- Technical reasons may include:
 - The FS does not contain at least 50m² of open office space
 - The open office space doesn't comprise at least 15% of the FS, or
 - No lighting is installed in the FS.

Not getting access to FS or vacancy does **NOT** make a space Non-Assessable.

Step 2: Choosing an NLPD Assessment Method

CBD TLA Rules: s6.3.2 p4I



Grid Method

TLA Rules: s6.3.3 p42

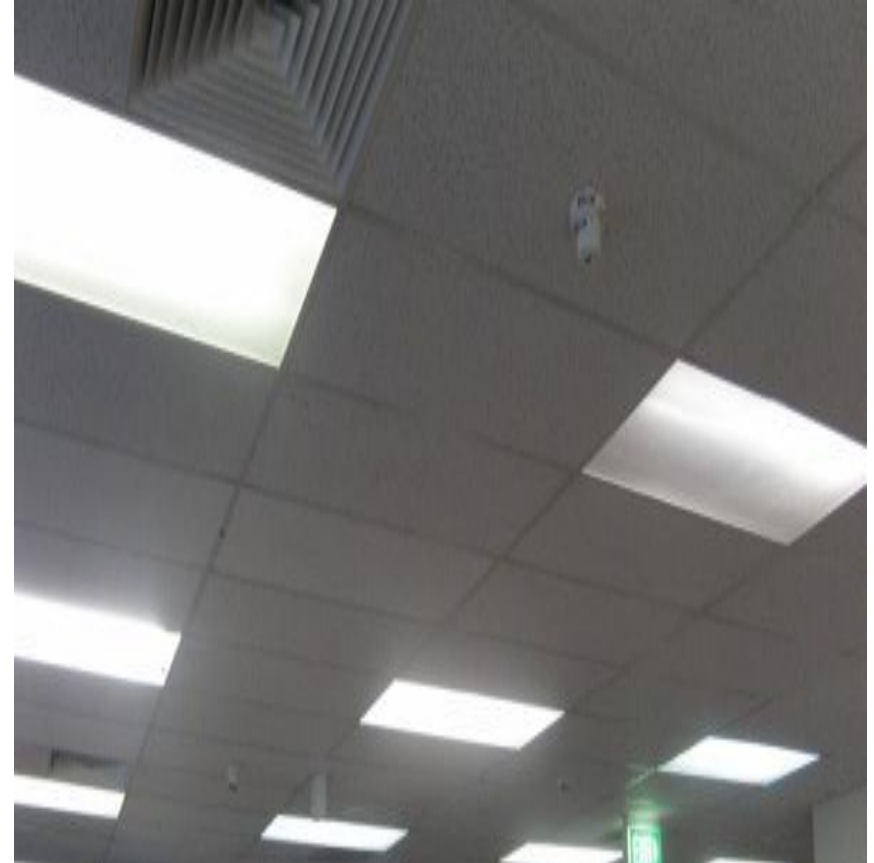
Permitted when:

- GLS contains a repeating block of up to two luminaires (the same or different types); AND
- The repeating block covers at least 50% of the FS area or 250 m² (whichever is smaller); AND
- Throughout the open office space areas there are only **minor variations** in the types of luminaires present, compared to the luminaires included within the simple repeating block. ; AND
- Documentation requirements for grid method can be met.

Grid Method - Process

Verify grid method applies:

- Identify luminaire types in the grid
- Measure the grid spacing
- Need actual measurements of tile size – don't assume
- Identify regular repeating pattern

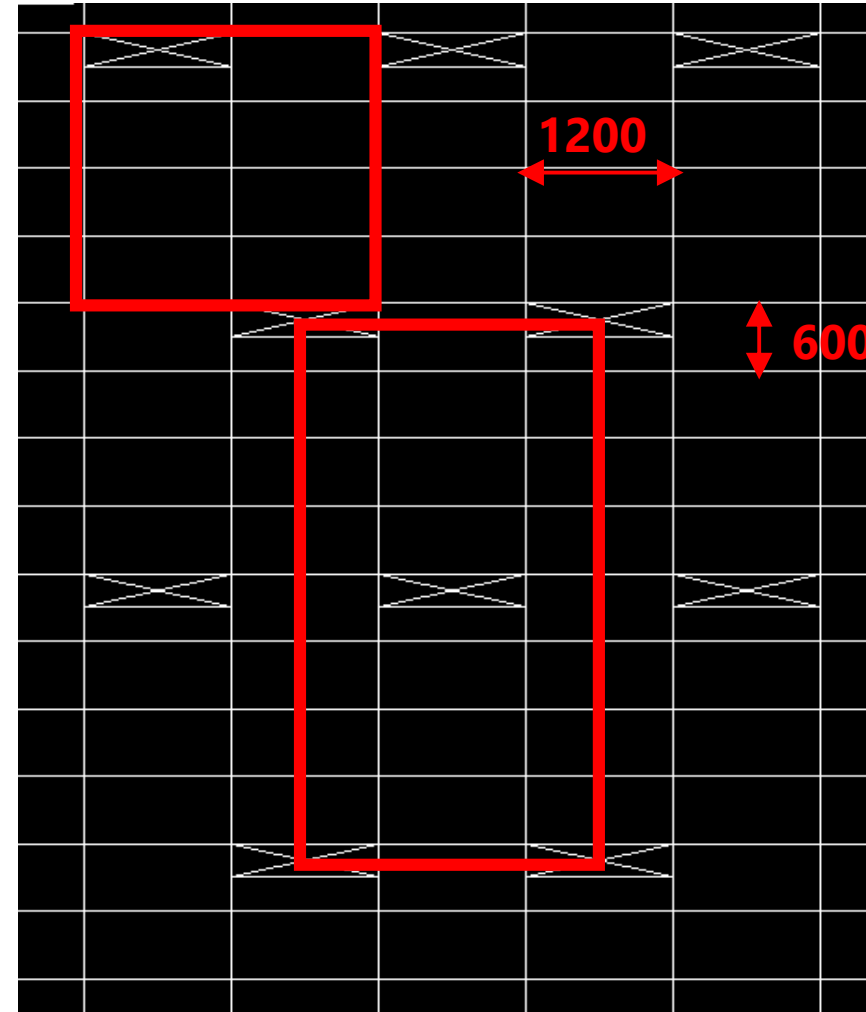


Grid Spacing



Grid Method

- Can we use the Grid Method here?
- What is the repeating block?
 - 2.4m x 2.4m per luminaire
 - (Or 4.8 x 2.4 per 2 luminaires)

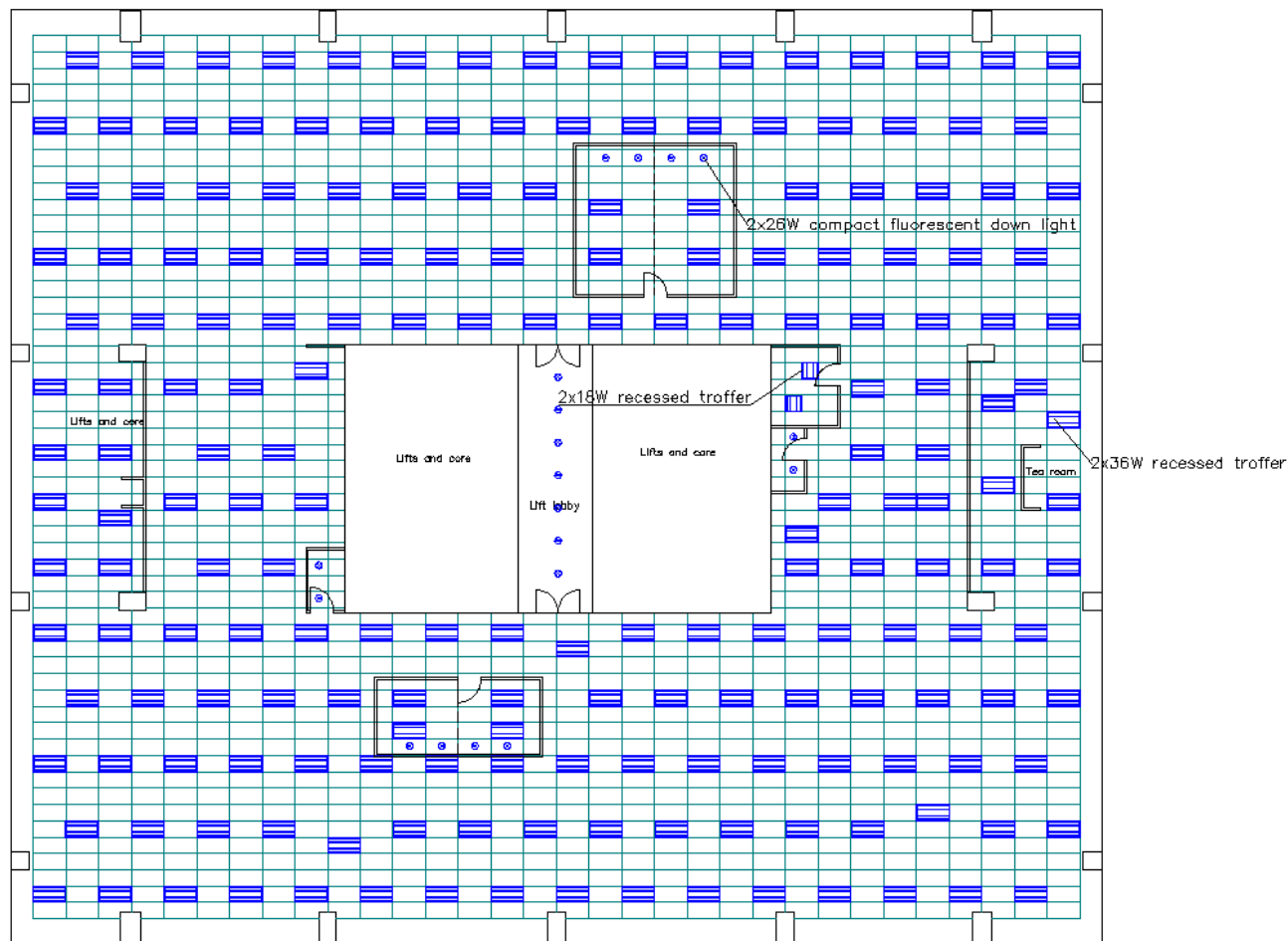


Grid Method Documentation Requirements

TLA Rules s6.4 p46

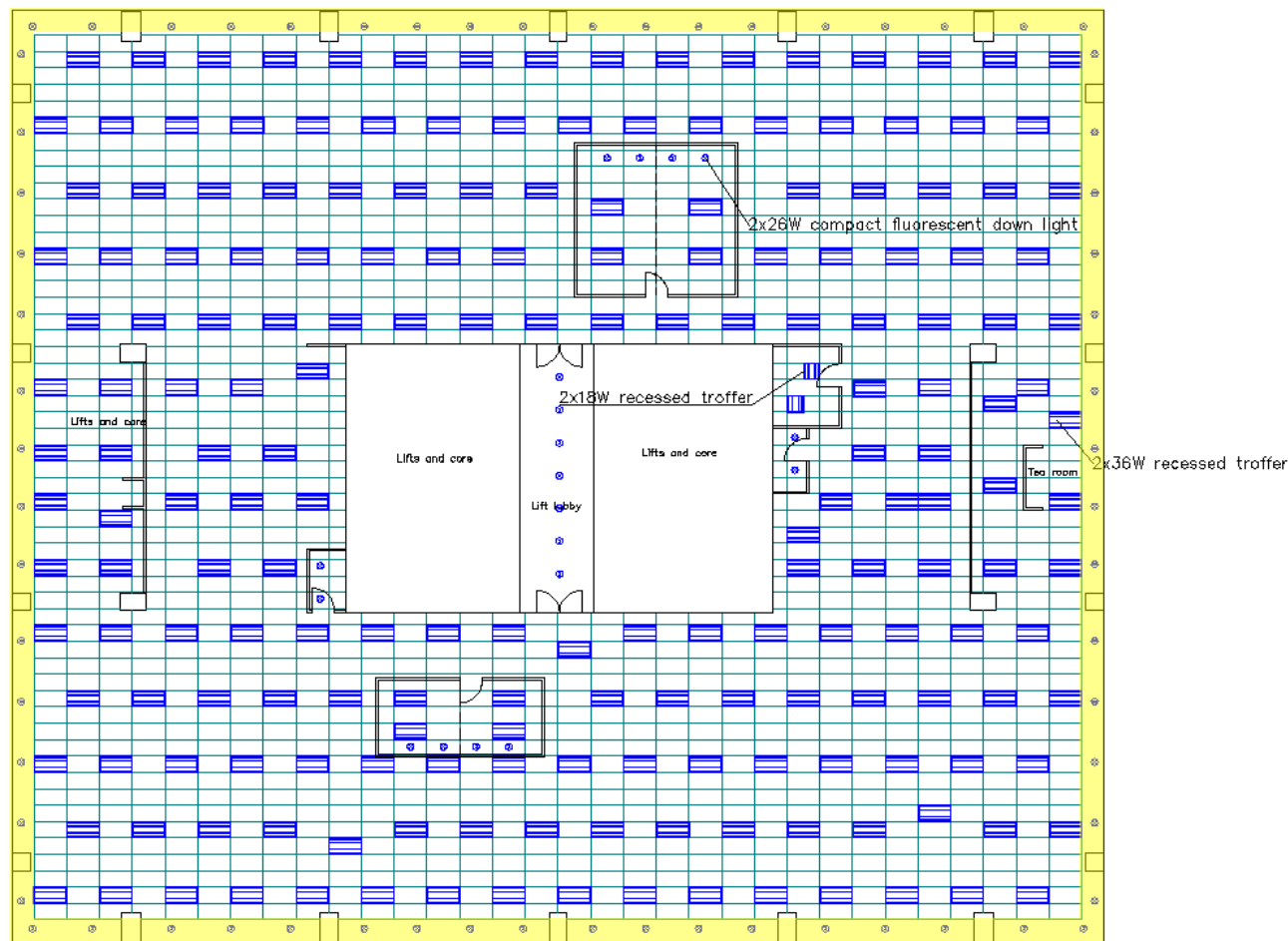
- Minimum grid coverage:
 - Reflected Ceiling Plan OR Assessor's sketch showing how much area is covered by grid (plan/mock up/photo); AND
- Regular repeating block:
 - Reflected Ceiling Plan OR Assessor's sketch showing grid; AND
- Size of repeating block:
 - Evidence of ceiling tile size and site photographs confirming number of tiles per block OR Reflected Ceiling Plan ; AND
- Site notes confirming only minor variations in **luminaire** types; AND
- Photos/site notes of all open office luminaires.

Can we use the grid method?



- Repeating block covers >50% functional space area
- Minor variations in luminaire types
- Yes! Grid Method can be used

Can we use the grid method?

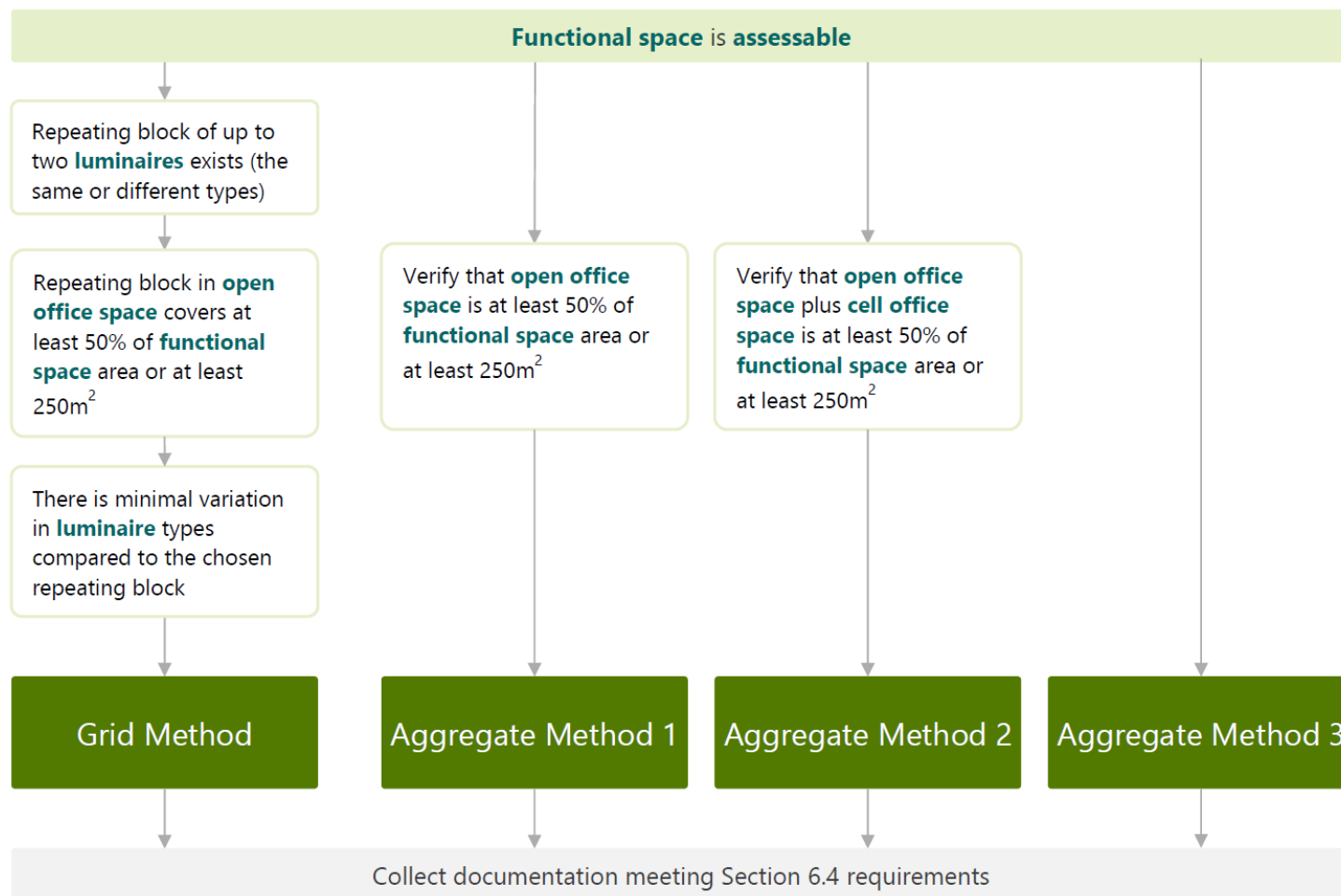


- Repeating block covers >50% functional space
- The perimeter downlights are a significant variation.
(i.e. there are more than just minor variations here)
- No - Grid Method can't be used

Grid Method - Minor Variations

- Grid Method can only be used when there are only **minor variations** in the types of luminaires present in the open office space.
- Examples of minor variations:
 - Three 600mm 14W T5 fluorescent tube fittings near corridors in a large open office space otherwise serviced by a repeating 2 x 1200 mm 28W T5 grid.
 - Five compact fluorescent downlights near meeting rooms in a large open office space otherwise serviced by a repeating 2 x 32W LED panel grid.
 - Five 1200x300mm 40W LED panels in an open office space otherwise serviced by a repeating 2 x 1200 mm 28W T5 grid (defective lamps replaced with LED panels).
- If in doubt, contact the CBD Administrator and ask!

Step 2: Choosing an NLPD Assessment Method (Agg 1)



Aggregate Method 1: Suitability

Permitted when:

- There is open office space of at least 50% of the functional space area or at least 250m², whichever is smaller;

AND

- Documentation requirements for Aggregate Method 1 can be met.

Use for most irregular or multi-luminaire set ups where there is enough open office space.

Aggregate Method 1: Find a sample space

- Find an area of open office space that:
 - Is at least 50% of the whole FS area or at least 250m², whichever is smaller

AND

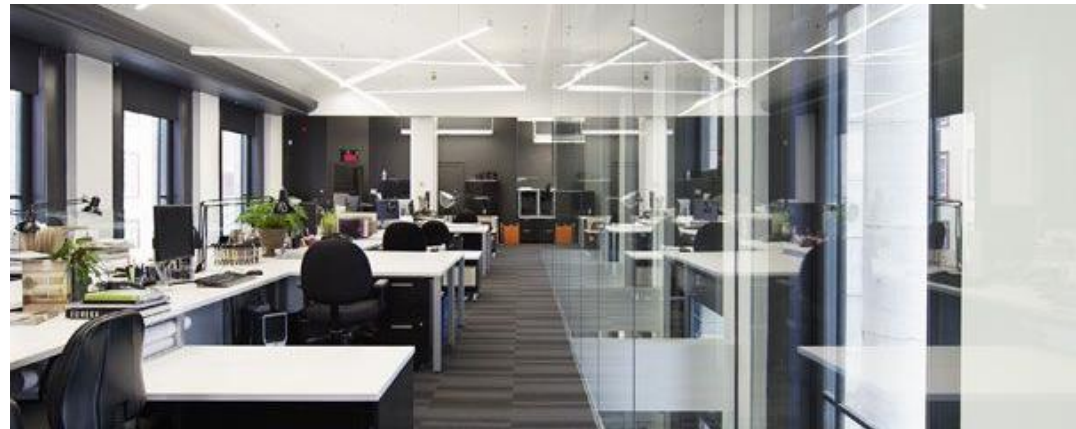
- Contains all the luminaire types used in the open office space, in a similar proportion to the open office space as a whole (i.e. a representative sample)

Aggregate Method 1: Process

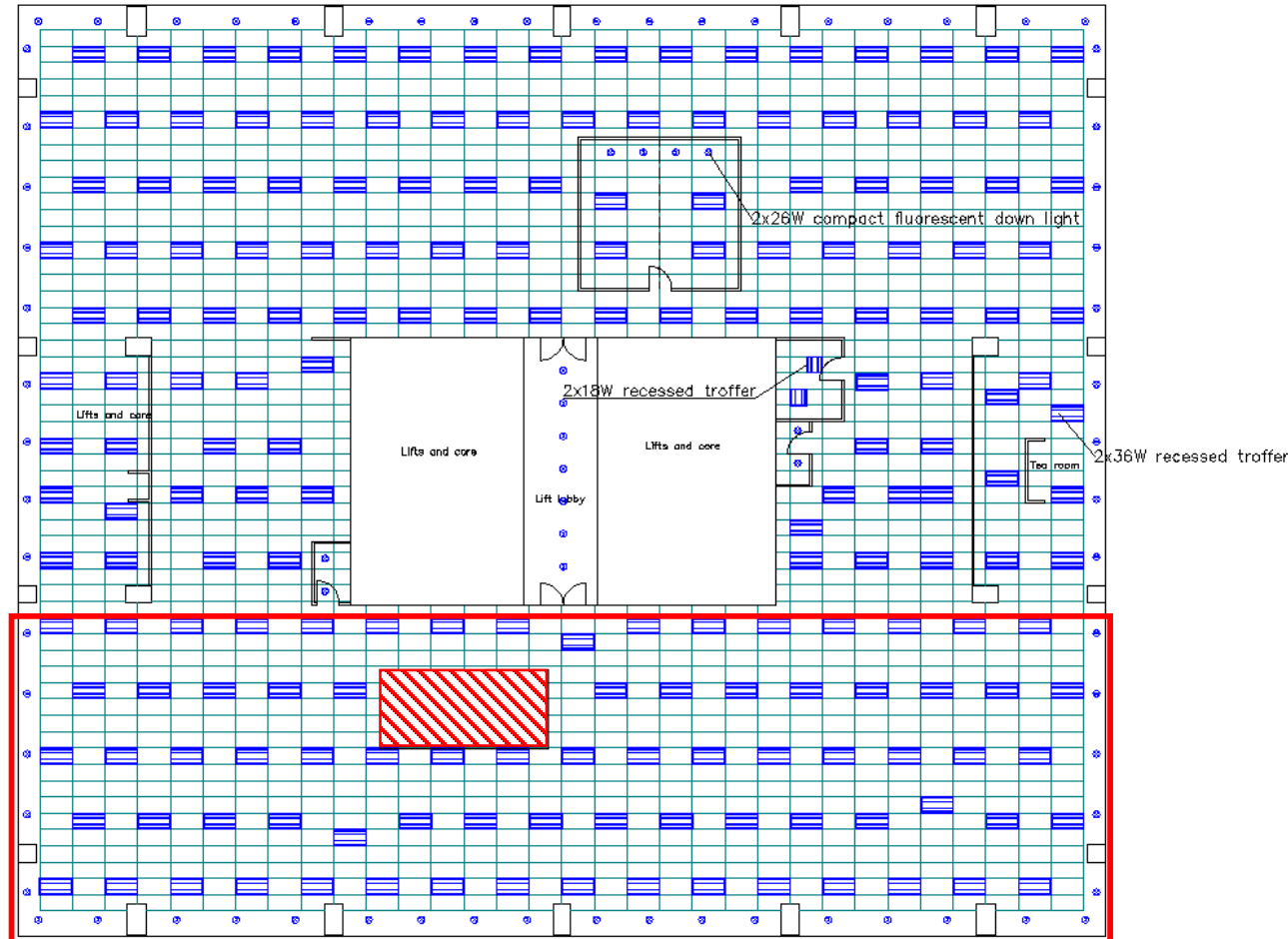
- Prepare drawing of sample space
- Calculate sample space area within +/-5% accuracy
- Count all GLS luminaires in sample space (not task or display lighting)
- Assessor Portal will do NLPD calculations

Aggregate Method 1: Summary

- Open office space
- No regular/grid spacing
- Use Aggregate Method 1 if documentation requirements can be met

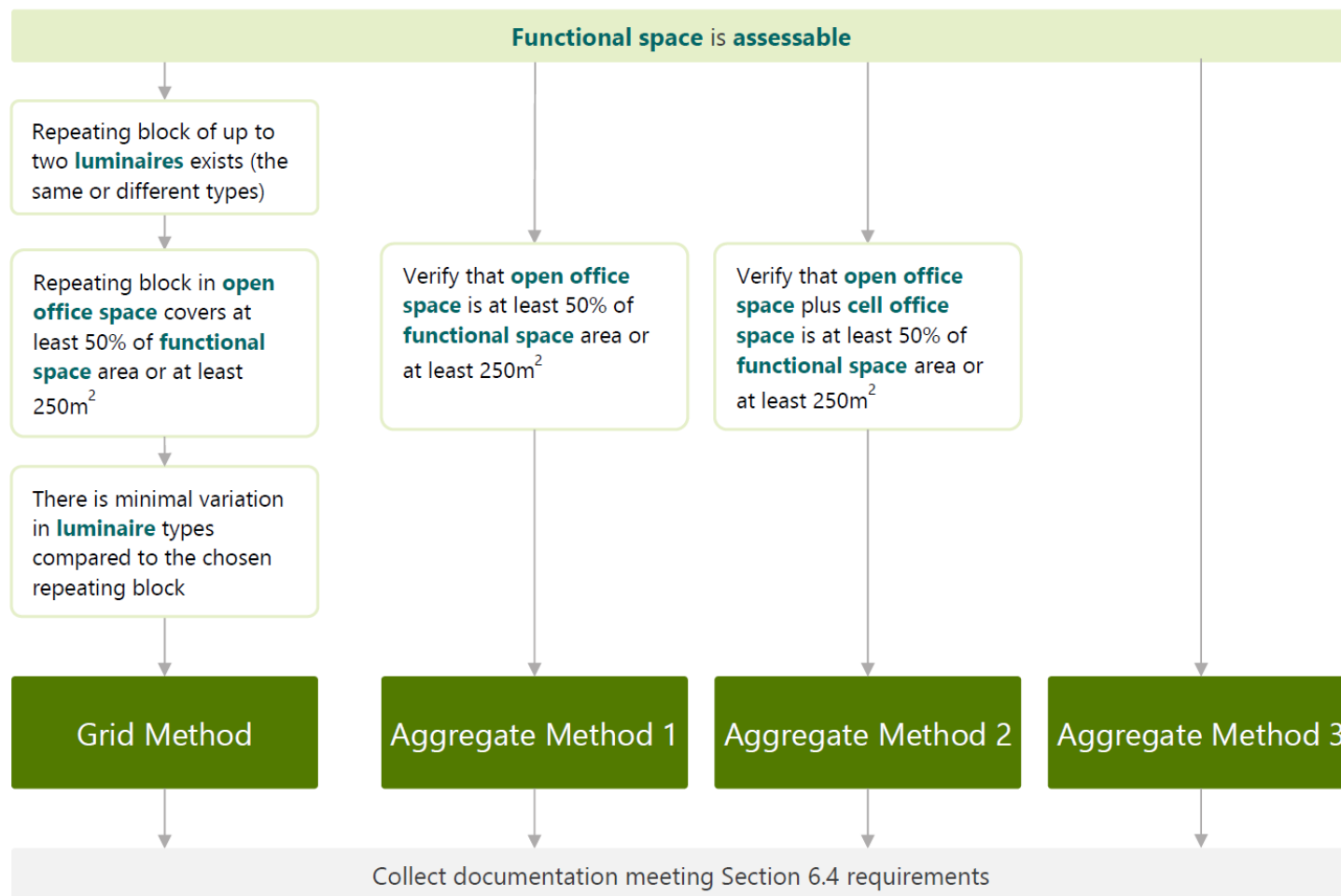


Agg 1: Can you find a sample space?



- Sample space:
 - Open office space only
 - $>250\text{m}^2$ (316m^2)
 - Includes representative mix of all luminaires in the open office space
 - Don't include shaded area as it's not open office

Step 2: Choosing an NLPD Assessment Method - Agg 2



Aggregate Method 2: Suitability

Permitted when

- There is open office + **cell office space** of at least 50% of the functional space area or at least 250m², whichever is smaller;

AND

- Documentation requirements for Aggregate Method 2 can be met

Use for irregular or multi-luminaire set ups where there is enough open and cell office space

Aggregate Method 2: Find a sample space

- Find a sample space made up of open office space and cell offices that:
 - Is at least 50% of the functional space area or $>250\text{m}^2$, whichever is smaller

AND

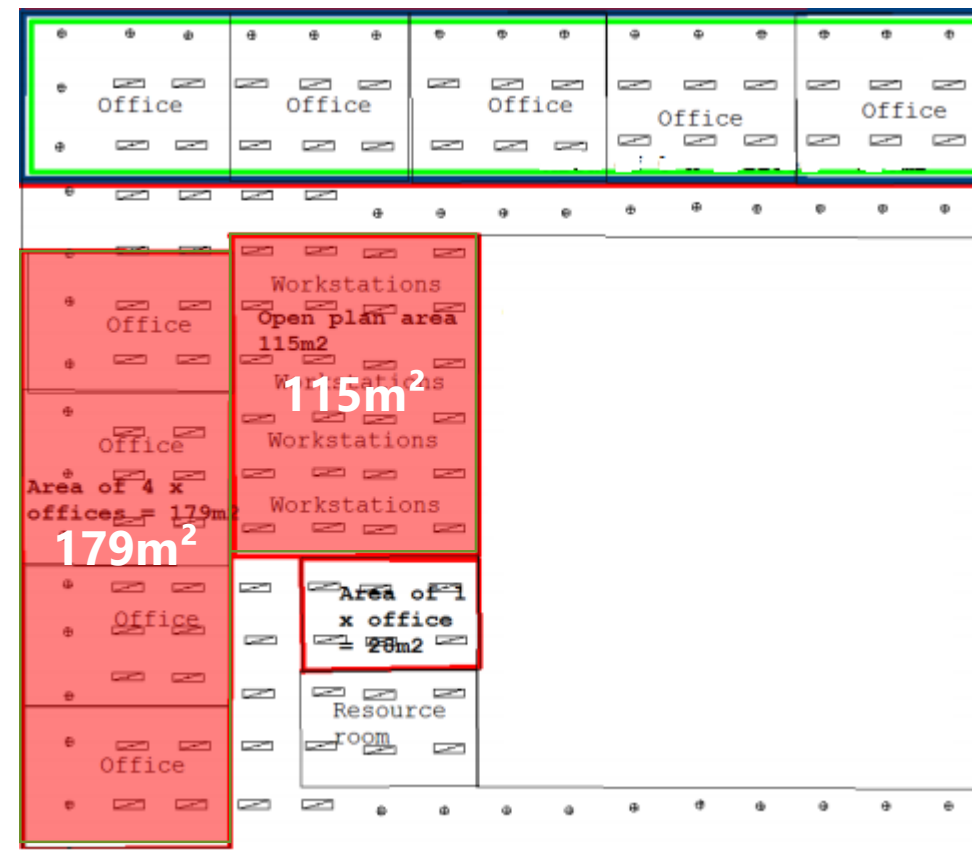
- Contains all the luminaire types used in the space's open office and cell office areas, in a similar proportion to the rest of the space as a whole (i.e. a representative sample)

Aggregate Method 2: Process

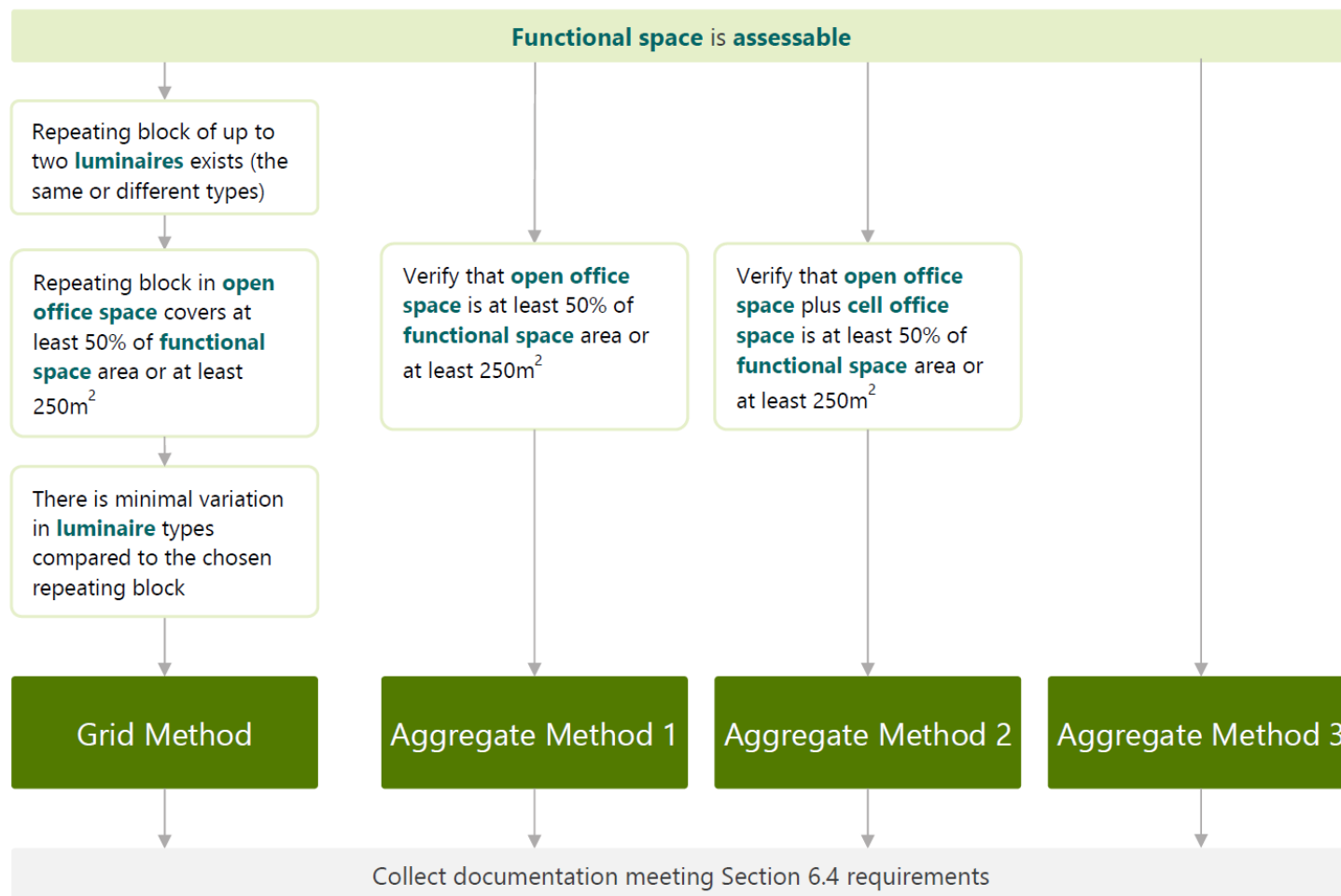
- Prepare drawing of sample space
- Calculate sample space area within +/-5% accuracy
- Count all GLS luminaires in sample space (not task or display lighting)
- Assessor Portal will do NLPD calculations

Aggregate Method 2

- Space is assessable
 - Open office 115 m² > 15% of FS NLA (750 m²)
- Grid method – not enough open office
- Agg method 1 – not enough open office
 - Open office space < 250 m²
- Agg method 2 – OK!
 - Open office plus cell office > 250 m²



Step 2: Choosing an NLPD Assessment Method – Agg 3



Aggregate Method 3: Suitability

- Always permitted for any functional space
- Use for small functional spaces or where the documentation is too poor to meet requirements for the other methods.

Aggregate Method 3: Sample Area (FS)

- Identify Functional Space area to measurement standard
- Count all luminaires in sample space
- Enter data into Assessor Portal
- Assessor Portal will do NLPD calculations

Aggregate Methods Documentation Requirements

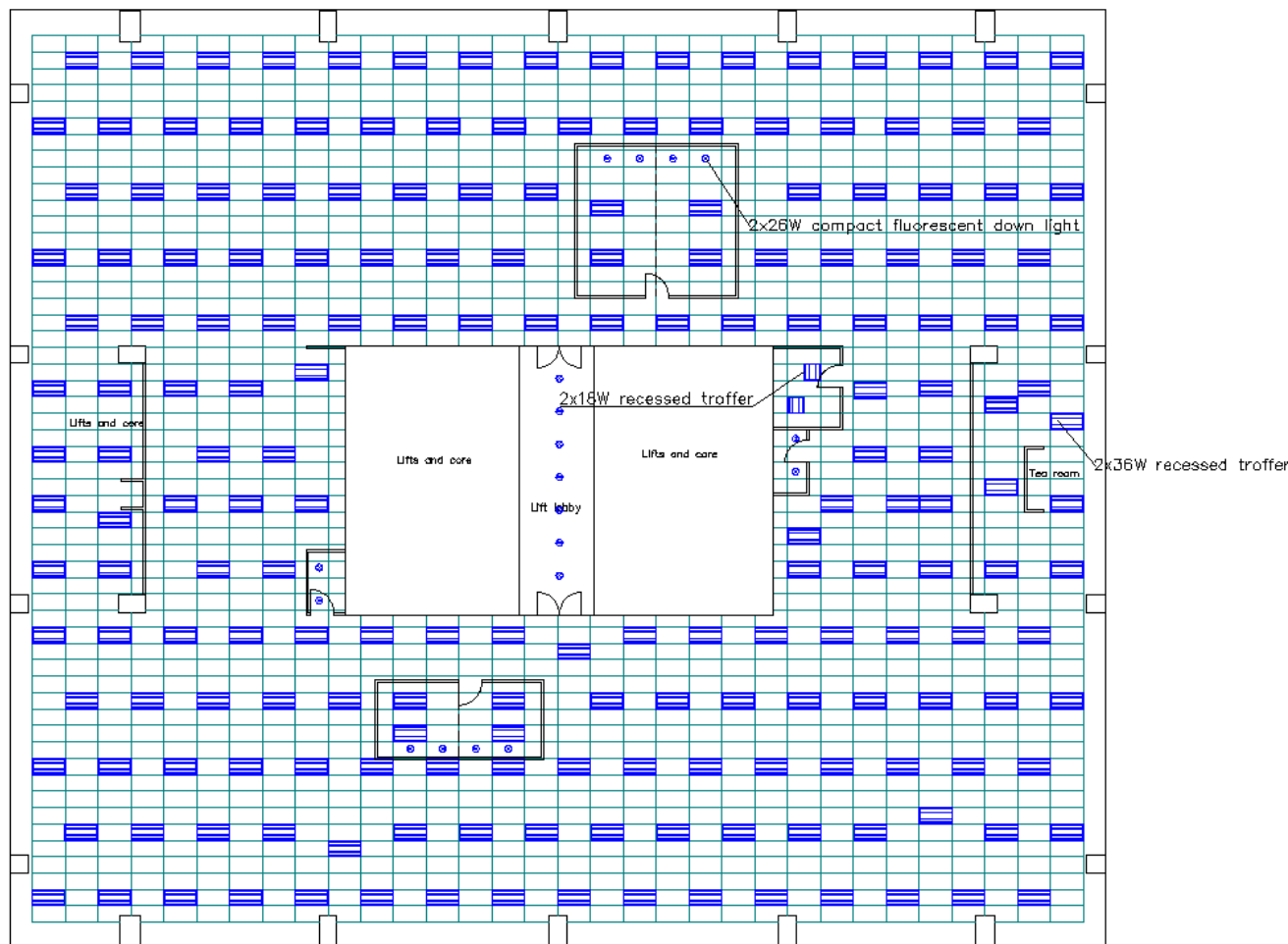
CBD TLA Rules: s6.4 page 47 - 48

- RCP/site notes/photos demonstrating irregularity of layout; AND
- Plan/mock up showing sample space area to measurement standard; AND
- Photos/site notes identifying all qualifying luminaire types in sample space; AND
- Site notes: count all luminaires within aggregate method sample space (locations not required)

Group Activity – NLPD Assessment Method

- Identify the most suitable assessment methods (See flow chart on Page 41 of the TLA Rules)

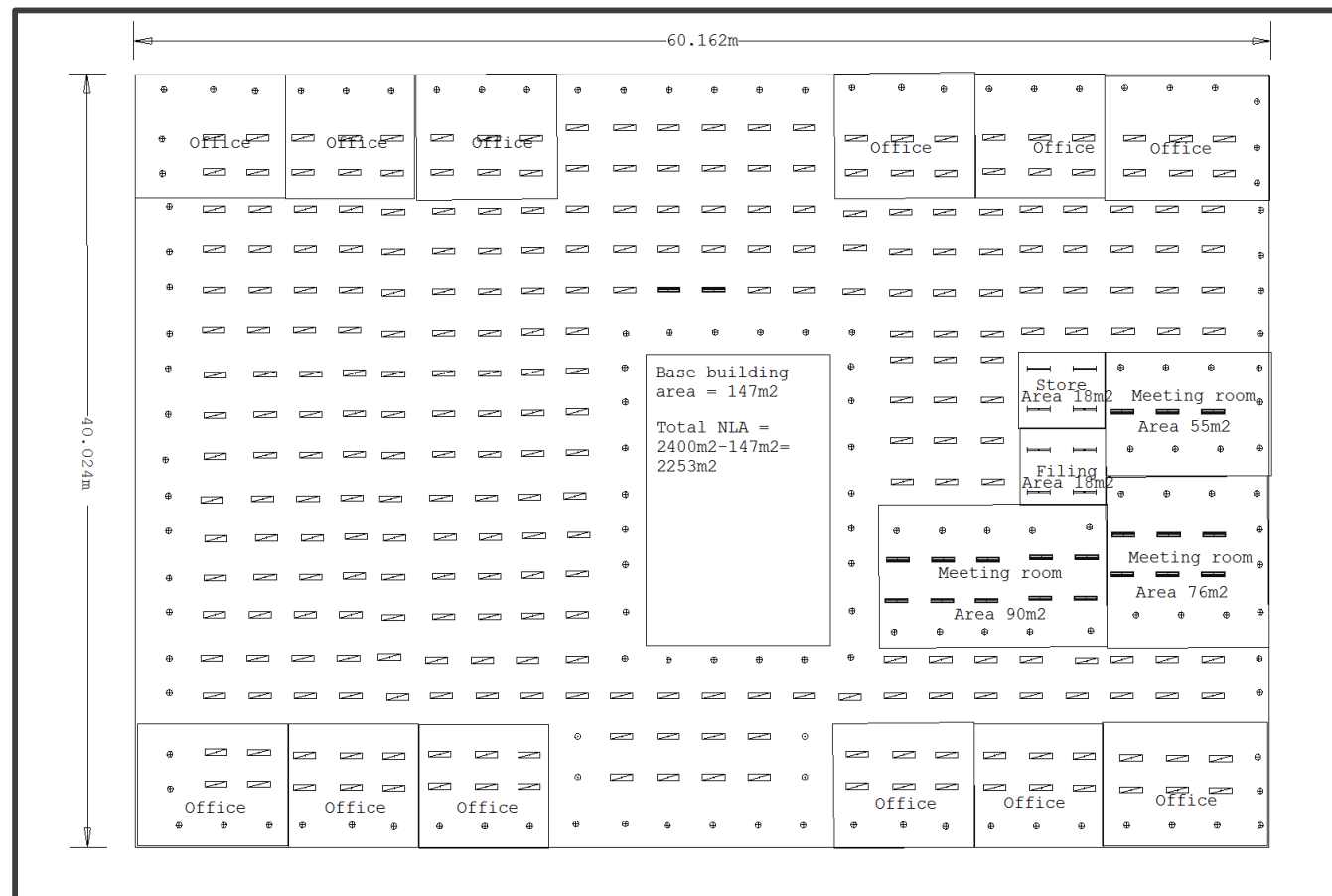
1



Group Activity – NLPD Assessment Method

- Identify the most suitable assessment methods (See flow chart on Page 41 of the TLA Rules)

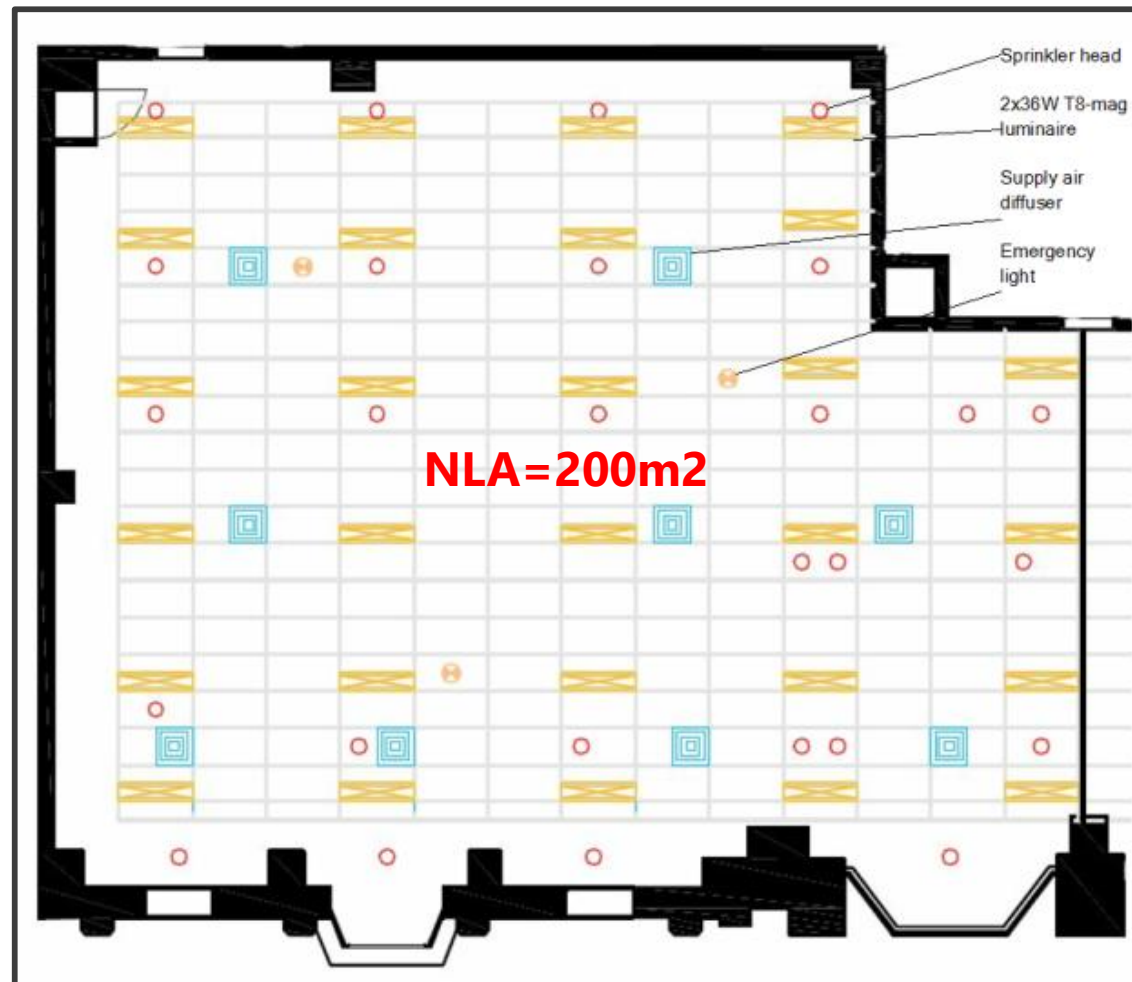
2



Group Activity – NLPD Assessment Method

- Identify the most suitable assessment methods (See flow chart on Page 41 of the TLA Rules)

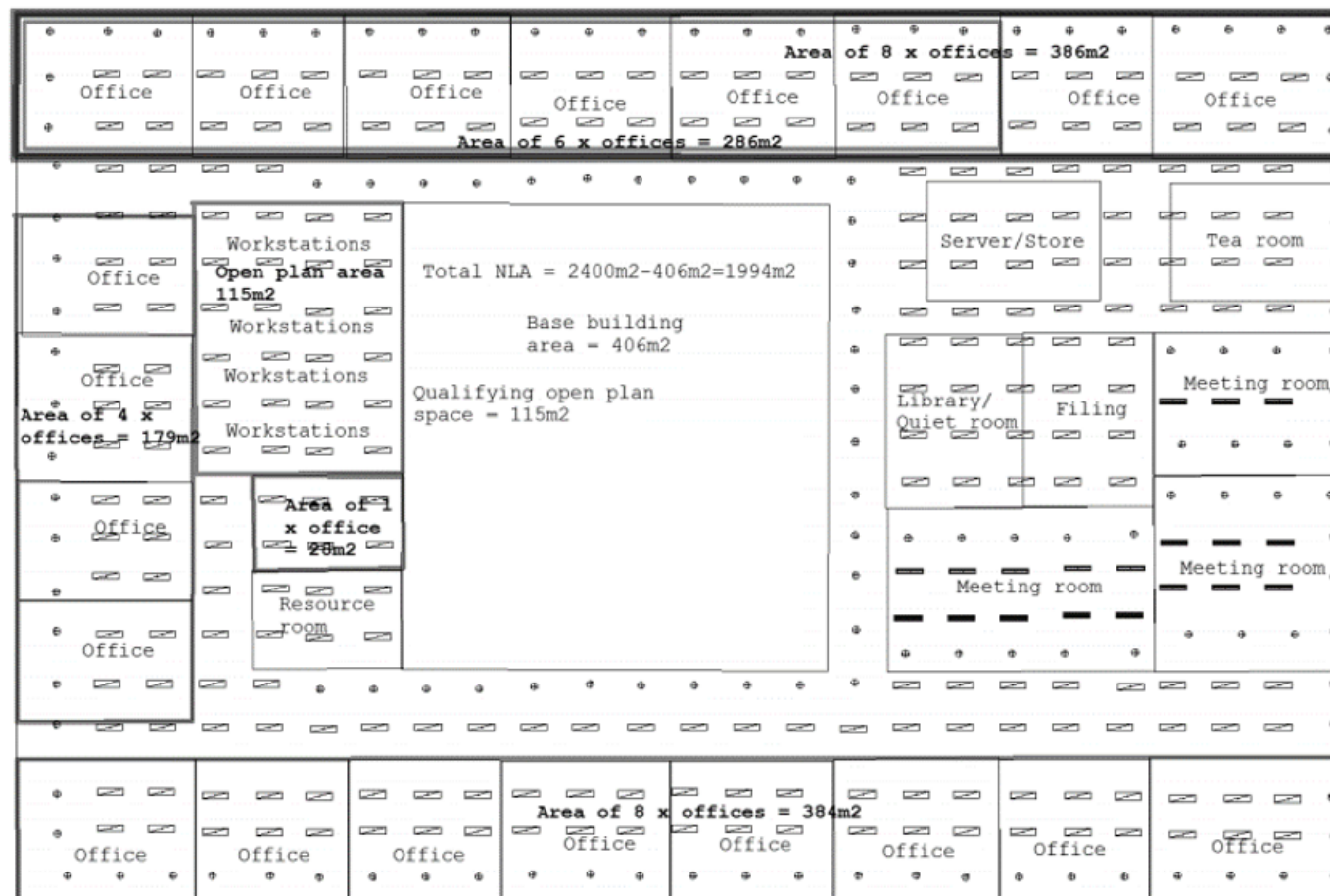
3



Group Activity – NLPD Assessment Method

- Identify the most suitable assessment methods (See flow chart on Page 41 of the TLA Rules)

4



In this section, you've learnt to:

- Describe what's in the TLA ✓
- Identify the types of spaces and lighting systems covered by the TLA ✓
- Do a TLA:
 - Define and name the Functional spaces ✓
 - List the luminaires ✓
 - Assess the Nominal Lighting Power Density ✓
 - **Assess the lighting controls**

We'll learn this next

Do a TLA: Assess the lighting controls

Lighting Control Assessment

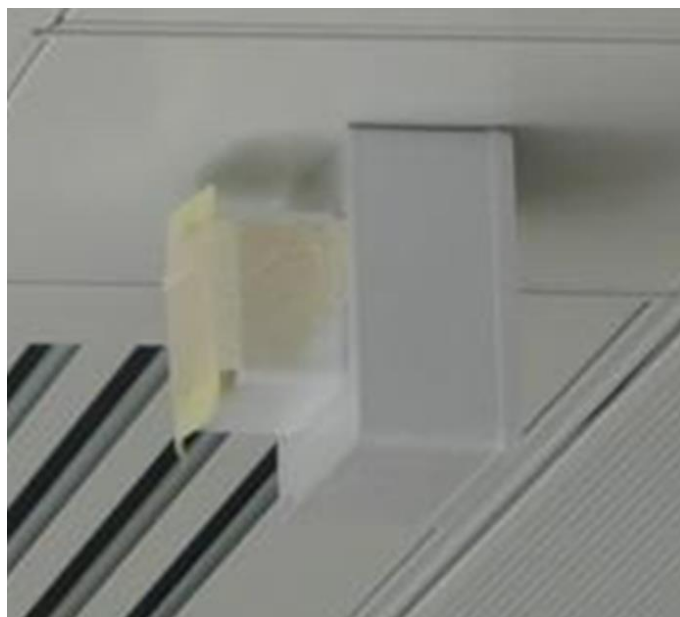
- Three possible control grades
- Assessed over WHOLE Functional Space
- Only assess the control system's potential – not how well it actually works

Appearance on BEEC

Good

Moderate

Poor



Lighting Control Assessment

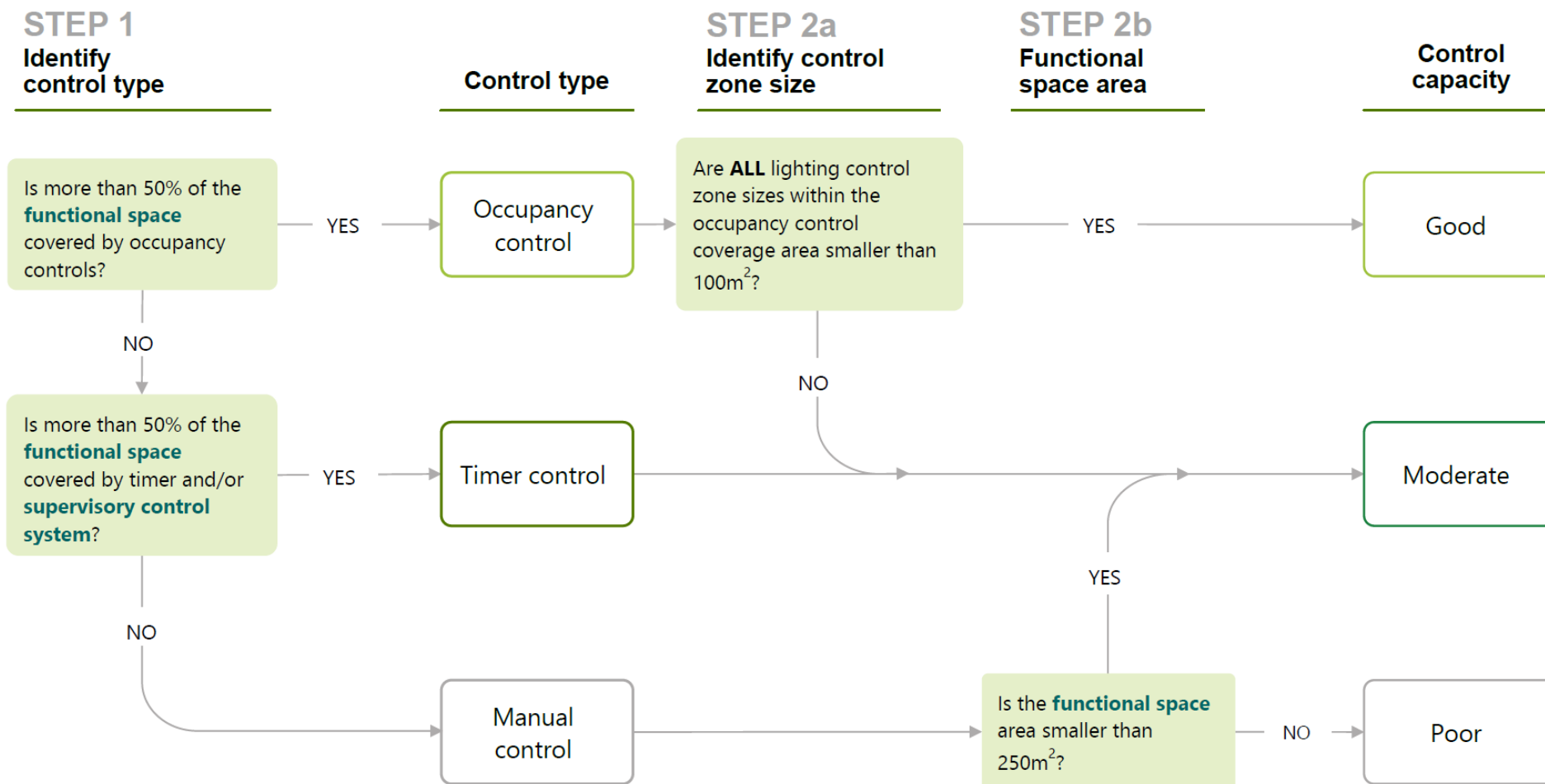
- Look at the main control system for each Functional Space
- Two factors to consider:
 - Control type (occupancy, timer, manual)
 - Switching zone size (smaller control zones: more effective)

Identifying the Control Type

- Three basic control types to assess:
 - Manual controls
 - Timer controls
 - Occupancy controls



Control Type Flow Chart



Occupancy Sensors

- Luminaires on supervisory control with occupancy sensors included
- Luminaires hardwired to occupancy sensors
- Luminaires with occupancy sensor and timer control



360 ° PIR



90° PIR



Ultrasonic

Timer Control

- A luminaire is under timer control if the highest level of control for its operation is via the use of a timer:
 - Luminaire connected to a supervisory control system
 - Luminaire controlled by time switch
 - Luminaire interlinked to turn off when security alarm set



Manual Control

- Manual control is any form of control that does not meet the requirements for occupancy or timer control



Bell press switch is not sufficient evidence of a timer control system



Daylight Sensors

- Not included in control grading
- May be integrated into occupancy sensors



Switching Zone Size

- Only assessed for Functional Spaces that are under occupancy control
- Threshold: ALL switching zones < 100 m²
- Check the largest switching zone in the Functional Space

Control Capacity

STEP 1 Identify control type

Is more than 50% of the **functional space** covered by occupancy controls?

YES

Control type

Occupancy control

STEP 2a Identify control zone size

Are **ALL** lighting control zone sizes within the occupancy control coverage area smaller than 100m²?

STEP 2b Functional space area

YES

Control capacity

Good

NO

Is more than 50% of the **functional space** covered by timer and/or **supervisory control system**?

YES

Timer control

NO

Moderate

NO

Manual control

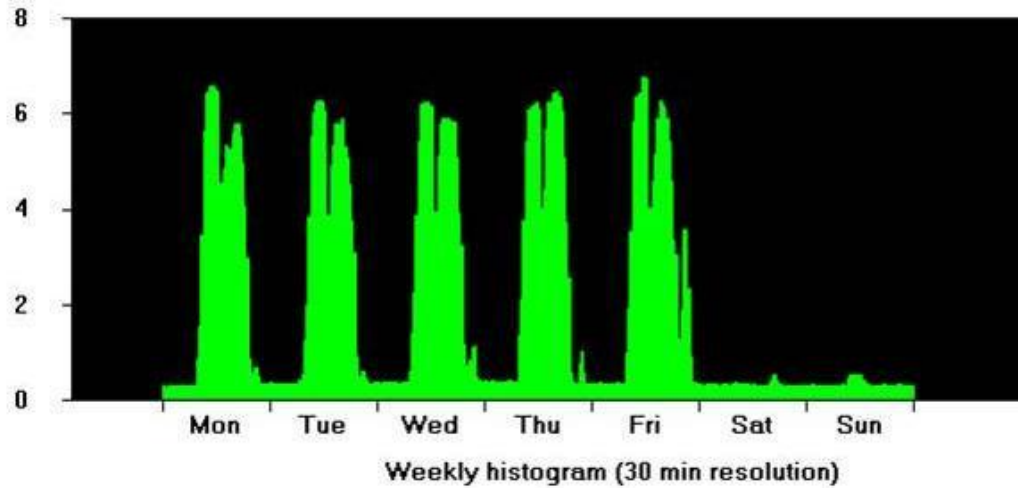
YES

Is the **functional space** area smaller than 250m²?

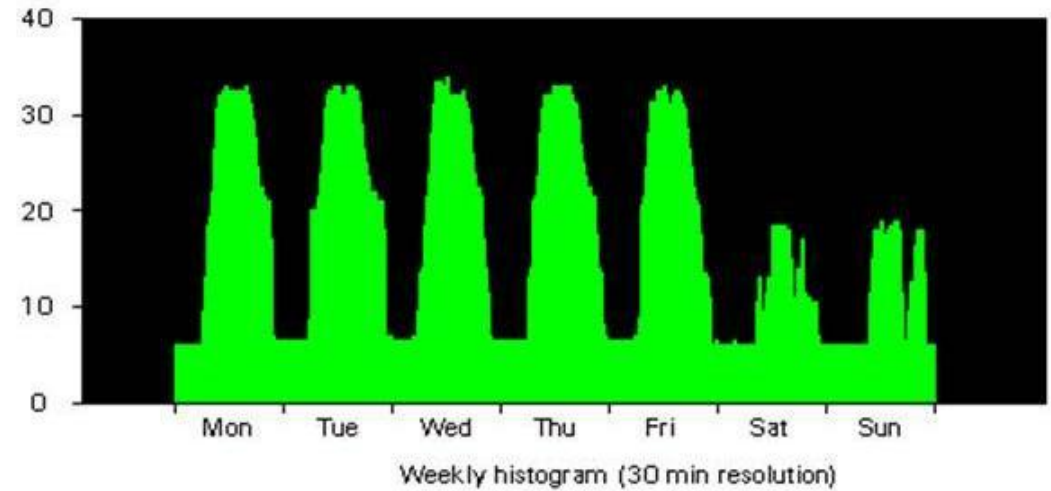
NO

Poor

Effect of Switching Zone Size



Small switching zone
(50m²)



Large switching zone
(2000m²)

Lighting Controls Documentation Requirements

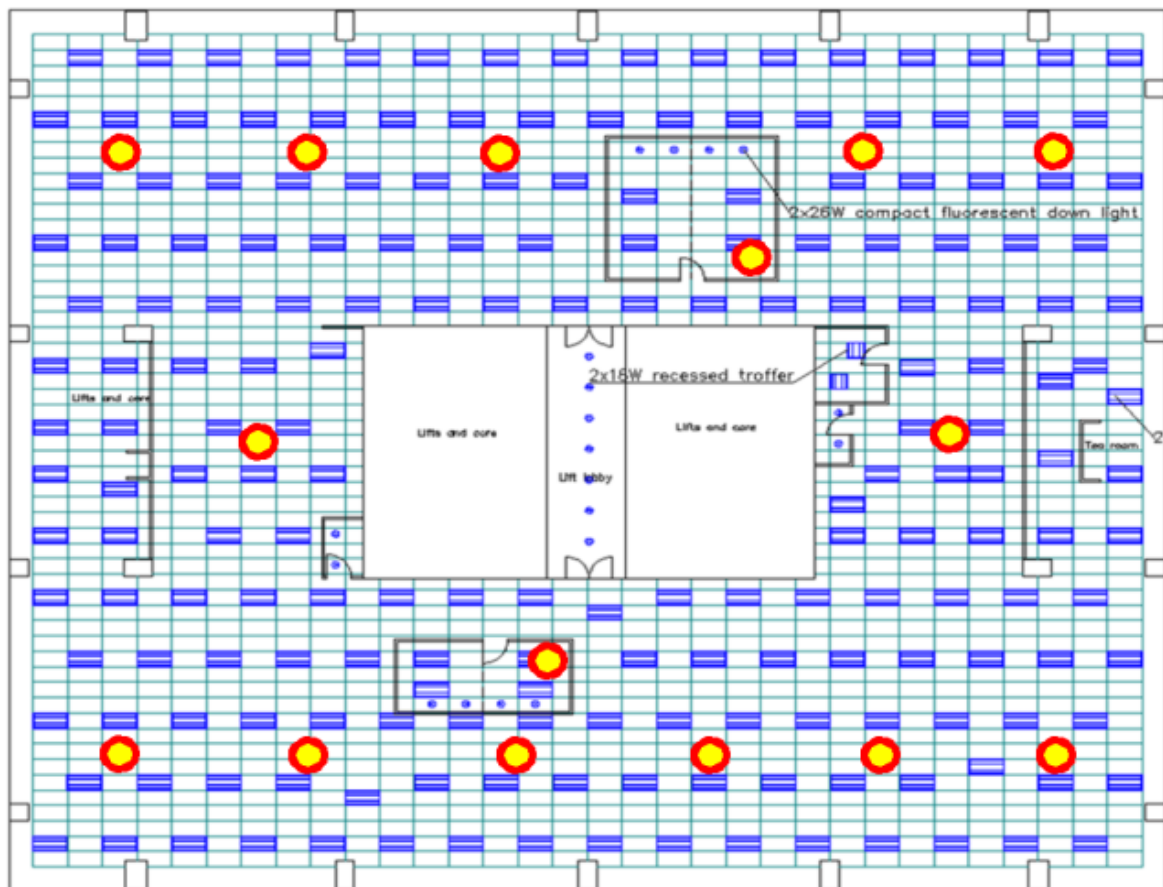
TLA Rules: s7.3 page 53-54

- Sketch/notes showing controls cover >50% of the FS
- Presence of occupancy control
 - Sensor photos/docs AND
 - Drawing/sketch of sensor locations OR count of sensors
 - Presence of integrated sensors
- Presence of supervisory/timer control
 - Manuals, drawings, photos, controllers, switch type (for supervisory systems)
- No documentation required for Manual Control – default 'worst case' option

Group Activity – Switching Zone

- Identify the control capacity: (see flow chart on page 50 of the TLA Rules)

1



- Motion sensors marked in red.
- Ceiling tile is 1.2m x 0.4m
- Motion on any sensor turns all the lights on.

Group Activity – Switching Zone

- Identify the control capacity: (see flow chart on page 50 of the TLA Rules)

2



- Motion sensors marked in red.
- Ceiling tile is 1.2m x 0.4m
- Motion controls **local area only.**

Proposed Systems

- Where building owners expect that the existing lighting system will change soon after the assessment
- Done in addition to the assessment of the existing system
- Strict eligibility criteria:
 - Signed contract to do the upgrade
 - Completion date within 3 months
 - All documentation required to assess the proposal

Proposed Systems

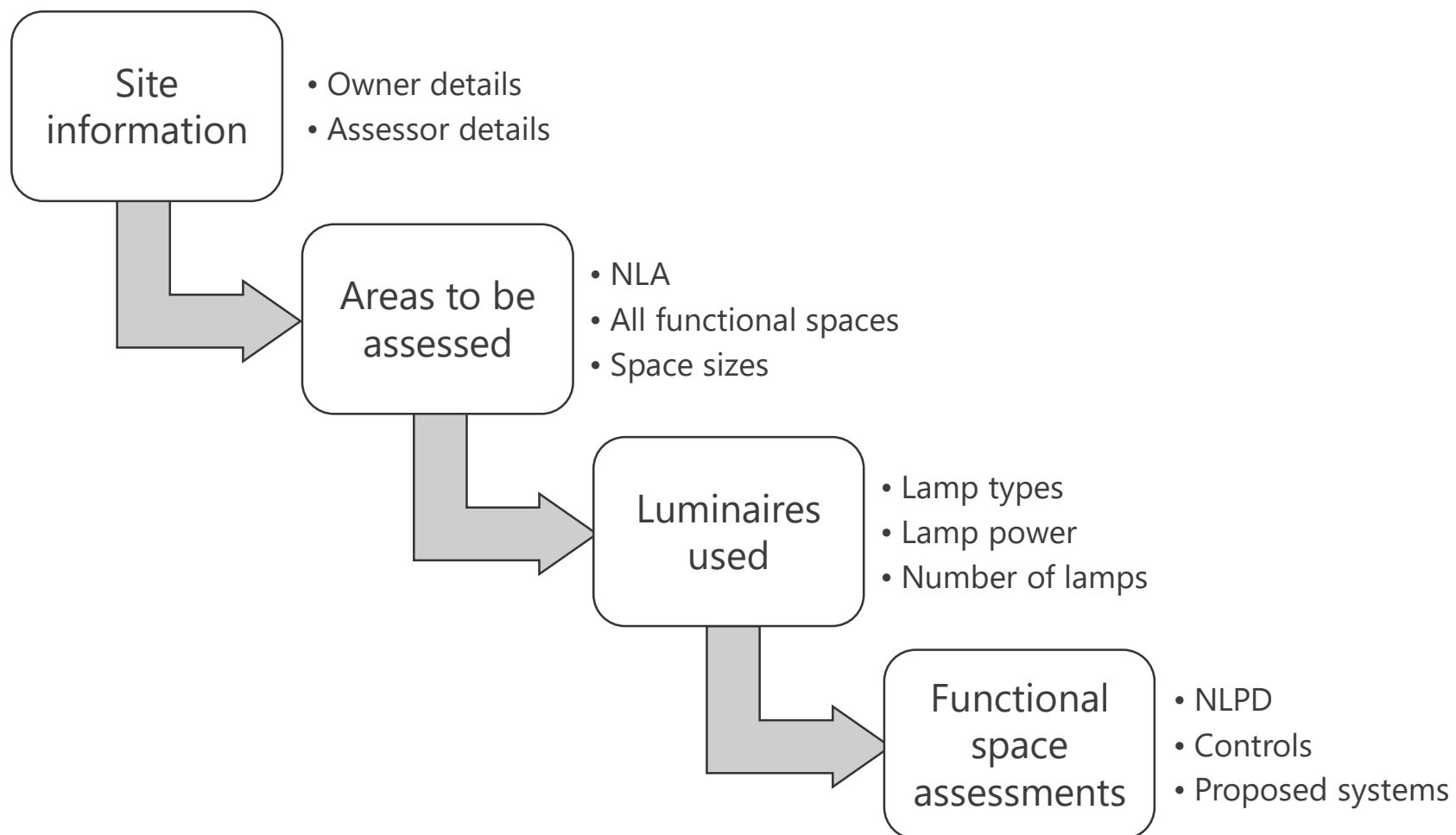
- May arise from contractual commitment to upgrade lighting system
 - Owner proposed lighting upgrade
 - Make good provision
- Assessments cover both NLPD and control capacity
- Proposed system assessments are optional
- Must be fully documented
 - Luminaire selections complete
 - Control strategy clearly set out
 - Control equipment selected

Proposed Systems Documentation Requirements

TLA Rules: s9.4 page 57

- Detailed design documentation
 - Luminaire selections complete
 - Control strategy clearly set out
 - Control equipment selected
- Copy of signed contract showing completion date within 3 months OR
- Copy of lease agreement for make good provisions

Typical Assessment Workflow



TLA Modifications

- Certified TLAs can be modified at any time
- If you are not the original author of TLA, you have to provide evidence from the building owner/agent, showing you have their permission
- Expiration date on the TLA does not change when modified (no additional five years)
- Allows you to update a TLA to show new lighting upgrades

COVID-19 TLA Ruling

- TLA Ruling introduced as a temporary measure to help address COVID-19 travel restrictions and social distancing measures
- Requires permission from the CBD operations team before using rules
- Can allow for TLA to be submitted:
 - Using evidence gathered by a local assessor, OR
 - Using existing documentation, OR
 - Using evidence gathered by a non-assessor (building manager etc.), OR
 - as a temporary TLA with all spaces marked non-assessable, and validity capped to 6 months
- The CBD Administrator will provide at least six weeks' notice prior to expiring this Ruling.
- Further information available [on the CBD website](#)

In this section, you've learnt to:

- Describe what's in the TLA ✓
- Identify the types of spaces and lighting systems covered by the TLA ✓
- Do a TLA: ✓
 - Define and name the Functional spaces ✓
 - List the luminaires ✓
 - Assess the Nominal Lighting Power Density ✓
 - Assess the lighting controls ✓

Topic 3

Exemptions

Exemptions

- Most commonly at the building level
- A building may be exempted from disclosure obligations if:
 - It is used for police or security
 - The building is non-assessable (a NABERS rating can't be calculated)
 - A major refurbishment of the building is underway
- No marketing or negotiation until the exemption is granted.

Exemptions: Police and Security

- Gather written evidence on the nature of operations within the building
- Note: Security means “national security” not corporate or commercial security
 - Apply through Assessor Portal or via the website
 - Exemptions are provided at the discretion of the CBD Administrator

Exemptions: Building or area is not assessable

Site is non-assessable when a NABERS rating or a TLA can't be done. Will need:

- Site inspection by Assessor
- Detailed supporting statement from Assessor
- Statement from NABERS confirming no rating
- Record how the owner will address the issues stopping a rating
- Apply through Assessor Portal or via the website
- Exemptions are provided at the discretion of the CBD Administrator

Common issues:

- Building is fully vacant more than 12 months (zero rated area)
- Missing energy bills (commonly gas meter not being read, bills estimated)
- Tenants left partway through rating period, unable to retrieve required data

Exemptions: Major refurbishment

Must improve the NABERS Rating by half a star. Will need to provide:

- Review scope of works to verify projected NABERS improvement
- Detailed supporting statement from Assessor
- Record how and when building owner will complete the major refurbishment works
- Underway \neq planned

Topic 4

Becoming a CBD Accredited Assessor

Processes and Procedures

- Customer
 - Agree on fee for services including possible initial site investigation
 - Obtain required information
 - If it's unclear whether the a BEEC is required, ask the customer to seek legal advice.
- Tenants
 - Negotiate access, ensure all parties are aware that someone will be entering their offices to assess lighting, sometimes you may need to do it after hours
- Security and OH&S
 - Follow all site and tenant induction and OH&S requirements
 - Have general and site specific safe work methods statements
 - See TLA Rules section 5.2 for more information

Access Denial - Process

- If an owner/tenant refuses access or information
 - Assessors should try a more senior representative and document any attempts to collection information
 - Contact CBD team for assistance via written notice
 - CBD administrator may issue written notices
 - Enforcement from the Department

The Department will then determine whether to enforce the provisions through the Court. Penalties may apply.

Assessment Timing

- Lodge assessment within 4 months of assessment date (the first site visit date)
- CBD Service Charter is to process 90% of all applications within 10 working days but allow a max. of 15 days to process a TLA application or a max. of 28 days to process a BEEC application
- Inform clients of processing timeframes as there is no prioritisation

Record Keeping Processes

- Assessors responsible for keeping documentation
- Retain records for seven years
- Retain primary data from assessment
 - Site photos notes and marked up drawings
 - Leases or contractual agreements used in assessments
- Summary data only is not acceptable
 - Must be sufficient for an assessor / auditor to accurately repeat the assessment from documentation only
- All evidence needs to be provided to the CBD administrator upon request

Record Keeping Processes

- Logical filing of evidence is essential
- Poor documentation is the primary cause for failing audits
- Assessor portal and TLA Rules provide guidance on documentation requirements
- Lighting assessments can be audited up to seven years after the BEEC has been issued
- Example storage and labelling methodology found in the TLA Rules – Appendix F

Administrative Processes

- Submission requirement
 - 4 months from date of first inspection to submission (hard deadline)
- TLA validity
 - 5 years from certification date
 - Assessors can modify existing TLAs with owners permission (TLA expiry date remains the same i.e. do not receive another 5 years validity)
- Interpretation of rules – CBD administrator
- Dispute resolution
 - With client
 - With CBD administrator

Next Steps

- Must be a fully accredited NABERS Assessor
- Attend this session and pass the accreditation exam
 - Exam available in the NABERS Learn course page
 - 75% pass mark
- Pass the online CBD Program module (\approx 1 hour)
- Register for the CBD Assessor Portal:
 - Register for mygovID & RAM first – see [CBD Website for instructions](#)
 - Email your myGovID & RAM details to CBD: info@cbd.gov.au
- Add insurances and NABERS number in portal
- Pay \$429 accreditation fee within 6 months of training

Further information

Disclaimer

- This presentation is intended to provide a summary about the Commercial Building Disclosure Program. The Program may be subject to change without notice. Readers should not act on the basis of the information provided in this presentation but should instead obtain legal advice.
- Readers wanting further information may refer to the Program's website.
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