



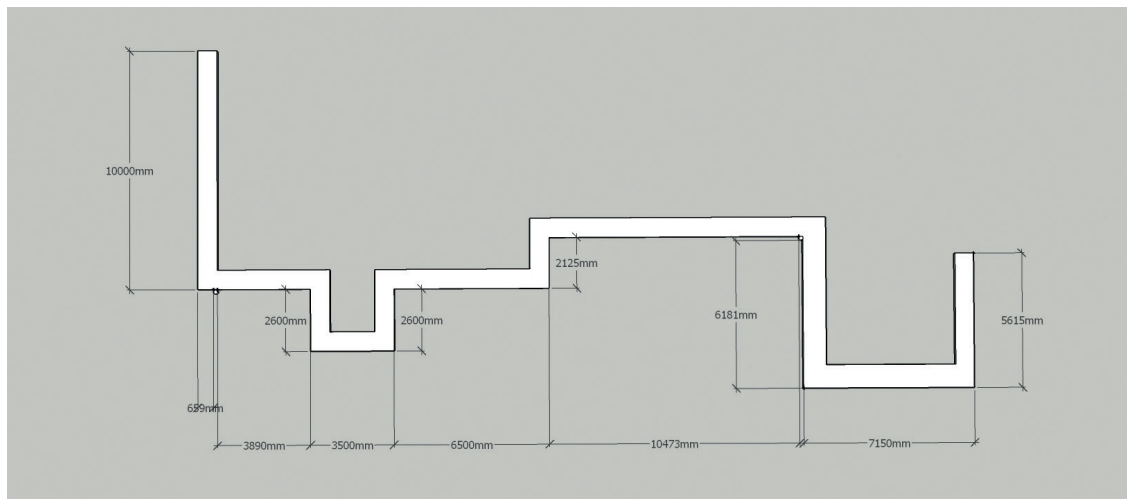
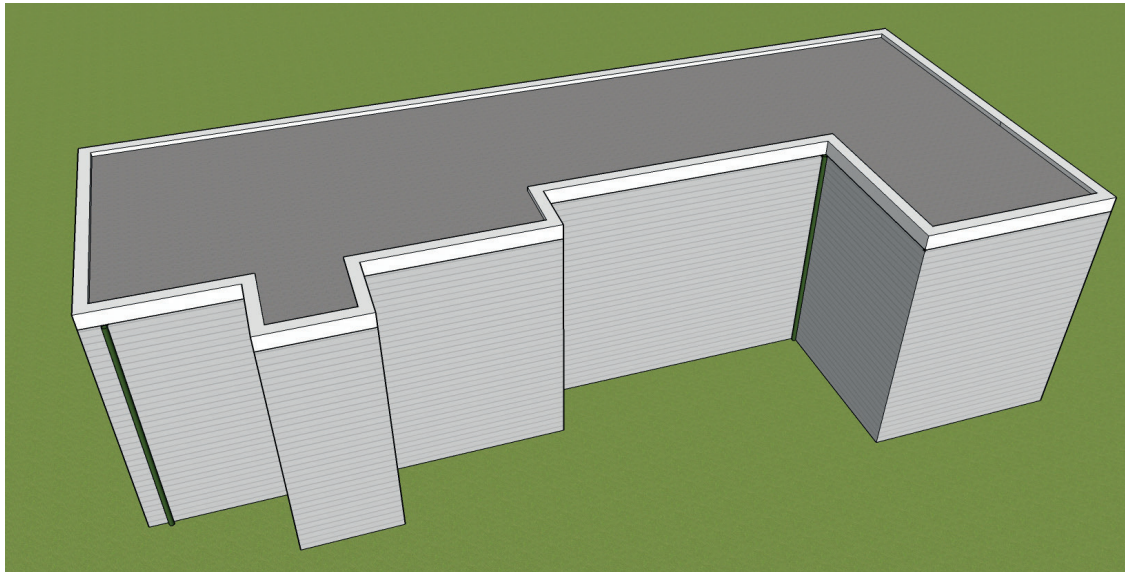
# HI-LITE™ 30

## Survey guide

Version 1.2. December, 2021

This document is intended to provide the information required to produce an accurate list of the parts required for a Hi-Lite™30 LED contour tube installation. Using an example site plan, it will explain what measurements are required, as well as look at various options for the treatment of internal and external corners. For details on the installation process itself, please refer to the installation guide.

In our example site we want to provide a key line of red Hi-Lite™30 LED contour tube to the front of a building. The tube will return down each side, but not run across the back.



**Fig.1**

Number	Length (mm)
--------	-------------

1	10,000
2	659
3	3,900
4	2,600
5	3,500
6	2,600
7	6,500
8	2,125
9	10,473
10	6,181
11	7,150
12	5,615

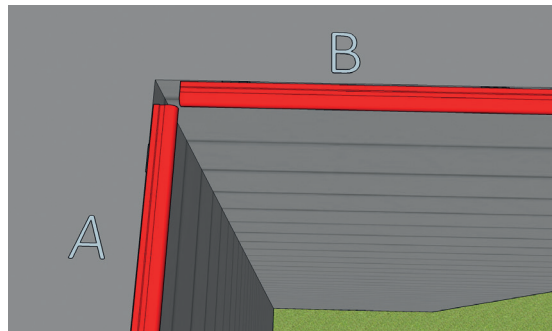
Begin by sketching a plan of the required installation and number each separate elevation required (See Fig.1 on page 1). Note the position of any obstructions in the tube run, such as rainwater down pipes, cable ducts etc. Where such a feature necessitates a break in the run, treat each side as a separate elevation.

Carefully measure the length of each numbered elevation. Dimensions taken from building drawings are not normally accurate enough. Take your measurements in millimetres and record in a table like the one shown in our example on the left.

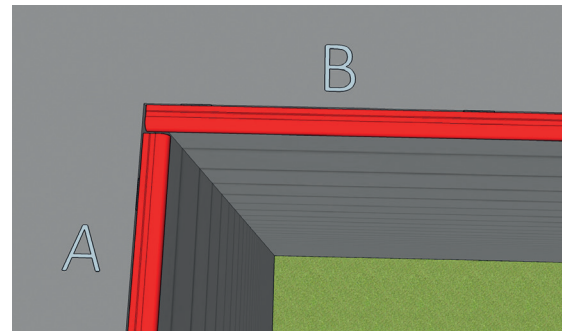
### Corner treatment

If your site includes internal or external corners, you must decide how these are to be treated. The diagrams below show the possible options for internal and external corners.

#### Internal corners



**Option 1**

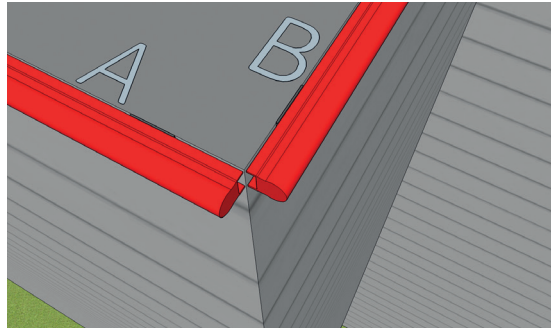


**Option 2**

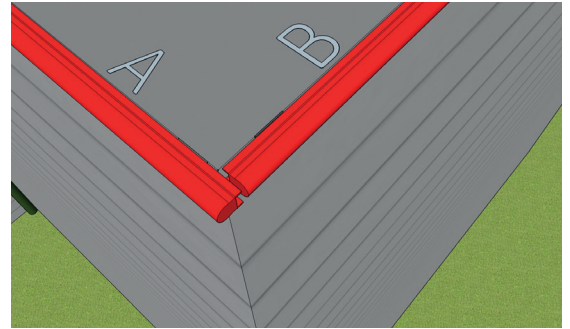
To achieve option 1, subtract 50mm from both elevation A and elevation B. For option 2, subtract 50mm from elevation A, leaving elevation B as measured. The preferred method is option 1: this generally looks better because it is symmetrical.

## Corner treatment (continued)

### External corners



**Option 1**



**Option 2**

To achieve option 1, leave both elevations A and B as measured. For option 2, add 50mm to elevation A, leaving elevation B as measured. The preferred method is option 1. As with internal corners, this generally looks better because it is symmetrical. Because the ends of Hi-Lite™30 LED contour tube illuminate you will not usually see a dark spot at the corner.

Number	Length (mm)	Length adjusted for corners (mm)
1	10,000	10,000
2	659	659
3	3,900	3,850
4	2,500	2,450
5	3,500	3,500
6	2,500	2,450
7	6,500	6,450
8	2,125	2,075
9	10,473	10,423
10	6,181	6,181
11	7,150	7,150
12	5,615	5,615

Add a column to your table of elevation lengths and adjust each one to take into account your chosen corner scheme.

In our example (see left) we have chosen to use option 1 for both internal and external corners. Remember, if an elevation has a corner at both ends, you will need to apply any adjustment twice.

Hi-Lite™ 30 LED contour tube is available in 2,400mm fixed length, 2,400mm site adjustable and 1,200mm site adjustable sections, in each colour in the range.

Using the information in the table on page 4, you would be able to accurately calculate the number of 2,400mm fixed length sections required per elevation and then the required sized site adjustable.

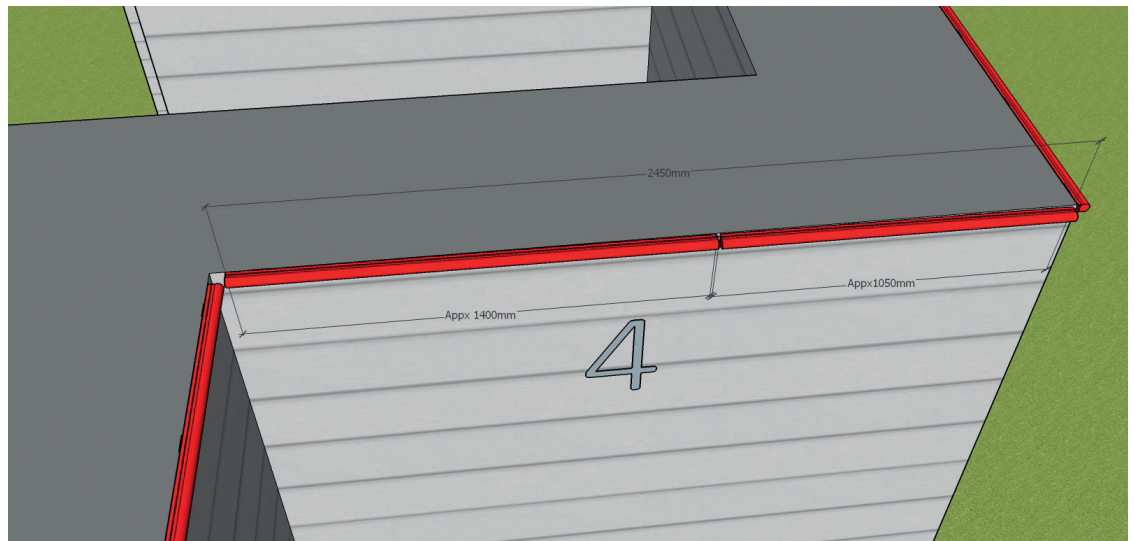
Example: Using elevation No.1 (10,000mm)

- Divide the elevation into 2,400mm sections:  $10000 \div 2400 = 4.1667$
- Use only the whole number (in this case 4) to calculate the length in 2,400mm fixed length sections:  $4 \times 2,400 = 9,600\text{mm}$
- Deduct this length from the total elevation, which will leave you with your site adjustable length:  $10,000\text{mm} - 9,600\text{mm} = 400\text{mm}$

A 400mm site adjustable can be made from either a 1,200mm or 2,400mm site adjustable tube (the shorter 1,200mm length would be the more cost-effective option).

The shortest an adjustable section can be cut to is approximately 72mm. Where the remaining tube length is less than this, it is possible to reduce the number of 2,400mm fixed length sections by one and replace this with a 1,200mm and 2,400mm adjustable section.

This will allow for the best possible fit. Elevations 4 and 6 show this issue, requiring a tube of 2,400mm and 50mm. Allowing a double adjustment we can provide a much more symmetrical finish to the elevation.



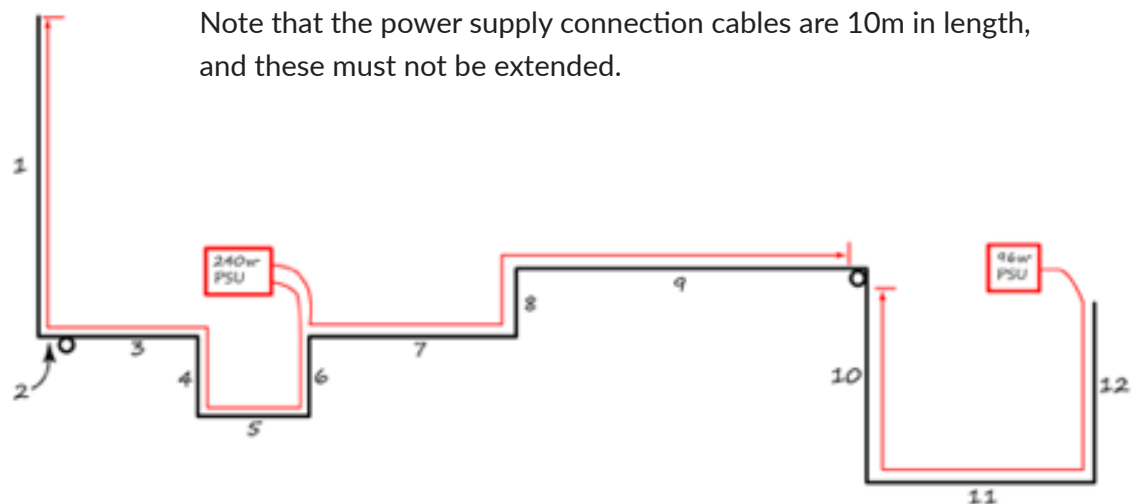
## Power supply requirements and positioning

Now that you have the length of each elevation defined, you must consider the quantity and positioning of the power supply units. Add up the total length of all the required elevations. Referring to the table below for Hi-Lite™30 Classic LED contour tube, work out the required quantity of each type of power supply.

Colour	Part Number	Max. length (96W PSU)	Max length (240W PSU)
Red	HL3-A*-R1-x	19m	48m total – 24m per output
Orange	HL3-A*-O1-x	19m	48m total – 24m per output
Yellow (lemon)	HL3-A*-Y1-x	19m	48m total – 24m per output
Yellow (mustard)	HL3-A*-Y2-x	19m	48m total – 24m per output
Green (bright)	HL3-A*-G3-x	45m	90m total – 45m per output
Blue	HL3-A*-B1-x	19m	48m total – 24m per output
White	HL3-A*-W1-x	19m	48m total – 24m per output

In our example we have a total of 61.103 metres of red tube, so we will need 1 x 240W unit and 1 x 96W unit.

Referring back to your sketched plan, along with your elevation table, decide on suitable locations for each power supply and the elevations they will power. In our example we have split each supply circuit at the ends of elevations. There is no particular requirement to do this and circuits can begin and end anywhere along an elevation.



In the example above, the 240W PSU has been selected to power elevations 1 to 6 on one output channel and 7 to 9 on the other output channel. A 96W PSU powers the remaining elevations 10, 11 and 12.

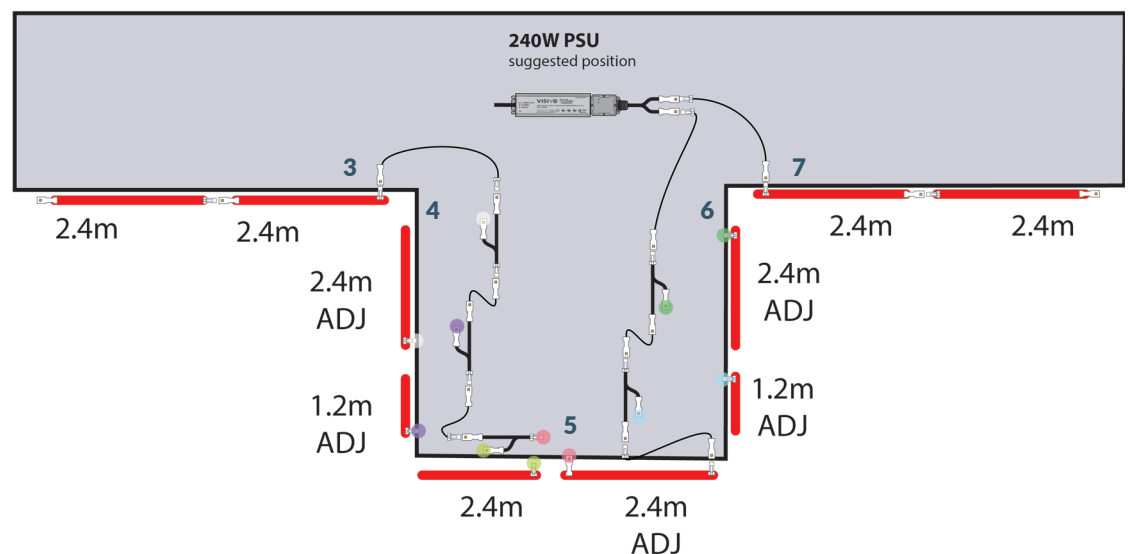
## Jumper cables and Y splitters

Finally, we must consider any gaps in the tube run, which must be bridged by a jumper cable. In our example below, we have the down pipe between elevations 2 and 3. If this gap is less than 200mm, the cables from the tubes will connect directly and a jumper cable is **not** required. For gaps greater than 200mm, order a suitable jumper cable. The standard jumper cable length is 3 metres (they are also available as 1m, 5m and 10m lengths). Because we have elected to run elevations 9 and 10 on different electrical circuits, we do not need to connect them or bridge around the down pipe that separates them.

Where there is a site adjustable tube on an elevation and the power run is to continue beyond that tube, a connecting cable is required. This cable is designed to connect the incoming power feed to the single JST connection on a site adjustable tube and allow for an outgoing connection to the next tube in the run. Y splitters have three connectors on them, this facilitates the splitting of the power feed to two tubes simultaneously.

Ending a run with a site adjustable tube is perfectly acceptable. As there is no cable at the adjusted end of the tube, no additional blanking connector or jumper cables are required. The example wiring connection layout below is a suggested method of connecting the tubes together, using a single Y splitter and a single jumper cable per adjustable section, based on the elevations 4, 5 and 6. Connections to elevations 3 and 7 are shown, but are not the complete elevations.

In general the wiring requirements will mean that an adjustable cable will require a jumper cable and a Y splitter to enable an ongoing connection, but this does depend on the exact layout of tube runs.



### **Additional information**

Please note that all Hi-Lite™ 30 LED contour tube lengths are quoted as nominal lengths. In other words, the length given is the gap which the tube section is designed to fill. This is different from any measured tube length.

Because Hi-Lite™ 30 LED contour tubes can expand and contract with temperature variations, the actual measured length of a tube will vary. For example a standard 2,400mm nominal length will measure approximately 2,390mm at 20°C. At lower temperatures it will measure slightly shorter and at higher temperatures slightly longer. At the highest operating temperature of the tube, normally 60°C, the measured length will equal the designated nominal length.

For further advice on surveying your site, or to discuss any other aspect of Hi-Lite™ 30 LED contour tube, please contact Visive by emailing [technical@visivegroup.com](mailto:technical@visivegroup.com)



#### **UK design and manufacturing facility**

Visive Group Ltd  
Ash Road South,  
Wrexham Industrial Estate,  
Wrexham,  
LL13 9UG  
UK  
**T: +44 (0)1978 660181**  
Email: [info@visivegroup.com](mailto:info@visivegroup.com)

#### **China office**

Visive Group (Guangzhou) Commercial Lighting Company Ltd  
Rm. 1707, Tianyin Bldg.,  
437 Zhongshan Avenue,  
Tianhe Guangzhou,  
China, 510660  
**T: +86 20 2383 6842**  
Contact: Andy Zheng – Director  
Email: [za@auxisolution.com](mailto:za@auxisolution.com)

#### **USA stockist**

Wired4Signs USA, LLC.  
6855 Barger Pond Way,  
Knoxville, USA, 37912  
**T: +1 (865) 339 4956**  
[www.wired4signsusa.com](http://www.wired4signsusa.com)

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