

# Energy monitoring – energy profiles

Application note

2 June 2022	SN-207 rev. 2.0
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SILVAIR Sp. z o.o.  
ul. Jasnogórska 44  
31-358 Kraków  
Poland

# 1. Introduction

This document describes how to measure the power of a luminaire and create an energy profile. An energy profile defines the power of the luminaire at various light levels and is required for the Silvair Energy Monitoring service to calculate the energy use. It is assumed that the power of the luminaire is constant for a given light level.


The values entered into the energy profile can be viewed in the web app in the *energy profile* pane for each device type, as well as in the *Commissioning report* as a list of values and a graphical representation.

## 2. Requirements


To create an energy profile, the following are necessary:

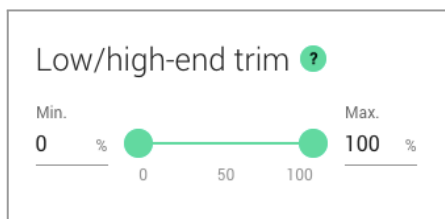
- A lighting project that has been commissioned with the Silvair Commissioning tools.
- A luminaire that has been added to the project.
- Access to the luminaire so that the power of the luminaire can be measured.
- The Silvair mobile app to manually set the light level of the luminaire.
- A power meter to measure the power of the luminaire.

## 3. Measuring the power

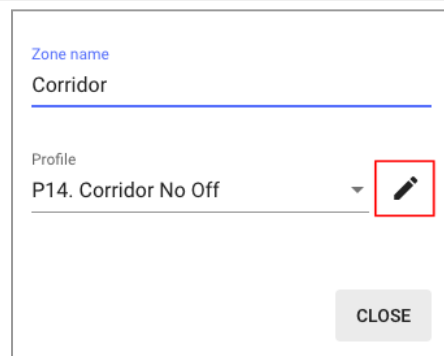
 Make sure that the resolution of your power meter is appropriate for the rated power of the luminaire you are testing.

### Silvair web app

1. In the [Silvair web app](#), open a project and then an area.
2. On the **Commissioning** tab, right-click the zone where you want to measure the power and select **Edit**.
3. Click  to edit the parameters of the profile.
4. Set **Min.** of the **Low/high-end trim** to 0% and **Max.** to 100%.



5. Click **Save** to save the profile.



Zone name  
Corridor

Profile  
P14. Corridor No Off

CLOSE

### Silvair mobile app

6. In the **Silvair mobile app**, go to the zone where you want to measure the power.
7. Go to the **Test** tab.
8. Use the slider to set the light level of the luminaire, or enter the value manually.
9. Wait until the luminaire reaches the new light level.
10. Use a power meter to measure the power for that light level.  
Make sure that the power value is stable before you read the value.



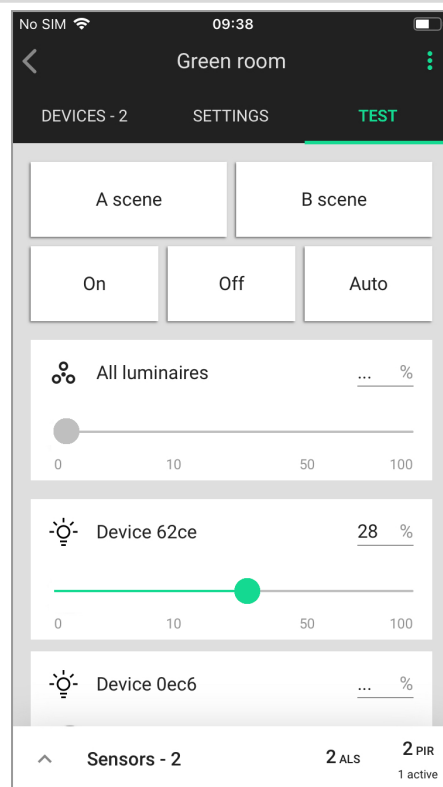
To obtain an accurate measurement, the luminaire must have enough time to warm up. If you measure the power too soon after you connect to the power or change the light level, the measurement will not be accurate.

11. Write down the measured power.
12. Repeat steps 8–11 for different light levels (at least for 0%, 1%, and 100%).



We recommend that you measure more levels near 0% and 100% to increase the accuracy of the energy profile.

13. If you also want to measure the power of other devices used in other zones, repeat steps 2–12.
14. Enter the written down values in the Silvair web app.
15. Download the *Commissioning report* (in the Silvair web app, go to Project > Report) and make sure that the energy profiles are correct.

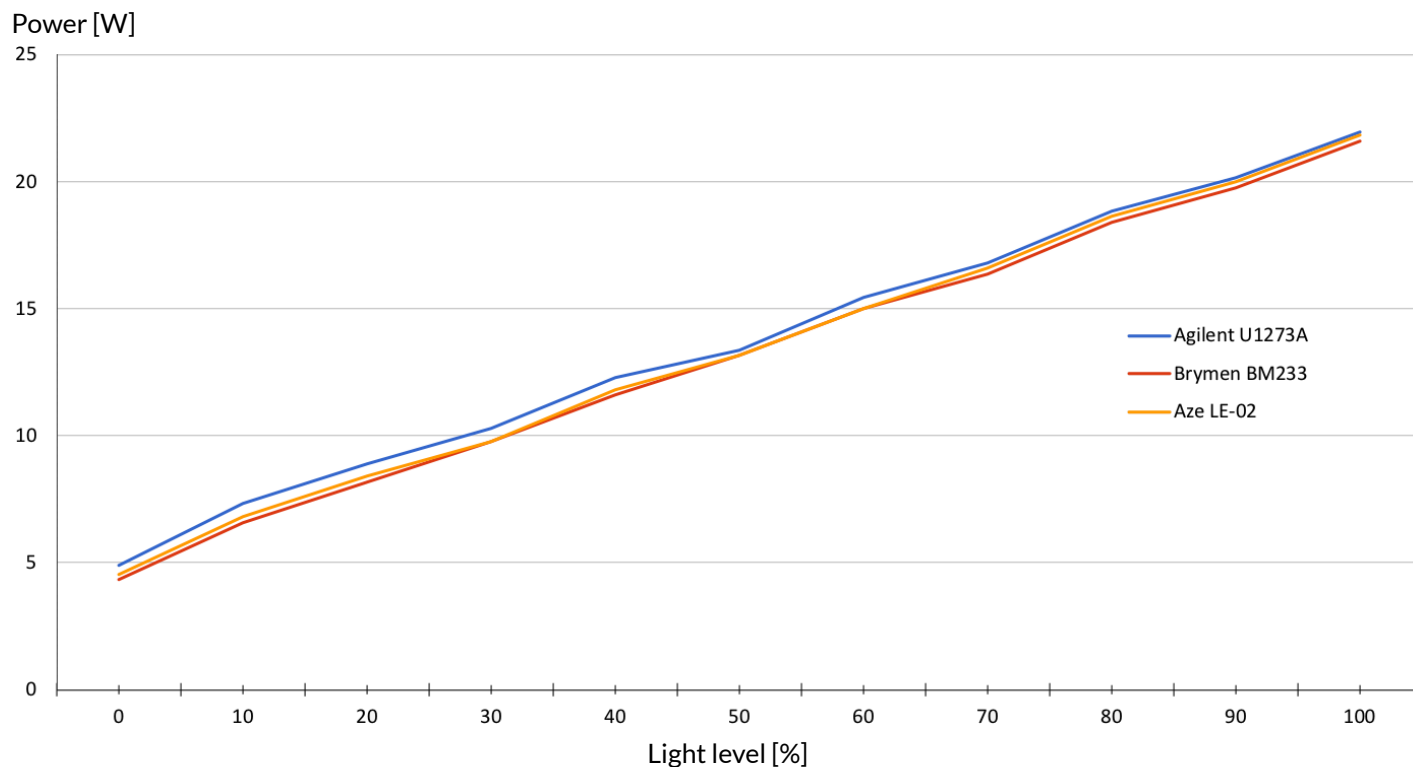


## 4. Power meter recommendations

The choice of a measuring device is up to the user, but Silvair recommends three power meters:

- Agilent U1273A
- Brymen BM233
- Aze LE-02

The following figure shows sample power measurements of a luminaire made by these power meters.



## 5. Document revisions

Revision	Date	Editor	Changes
2.0	2 June 2022	GM	Redrafted the document. Measuring instructions have been made more detailed. Updated the screenshot. Implemented template rev. 1.2.
1.0	24 January 2022	ES	Minor editing. Changed the name of the document to more accurately reflect the content.
1	25 July 2019	IK	Initial document release.

# Contact information

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Support: [support@silvair.com](mailto:support@silvair.com)  
Business development: [business@silvair.com](mailto:business@silvair.com)

For more information please visit: [www.silvair.com](http://www.silvair.com)

Our offices:

## Europe

ul. Jasnogórska 44  
31-358, Kraków  
POLAND

## North America

717 Market Street, Suite 100  
San Francisco, CA 94103  
USA