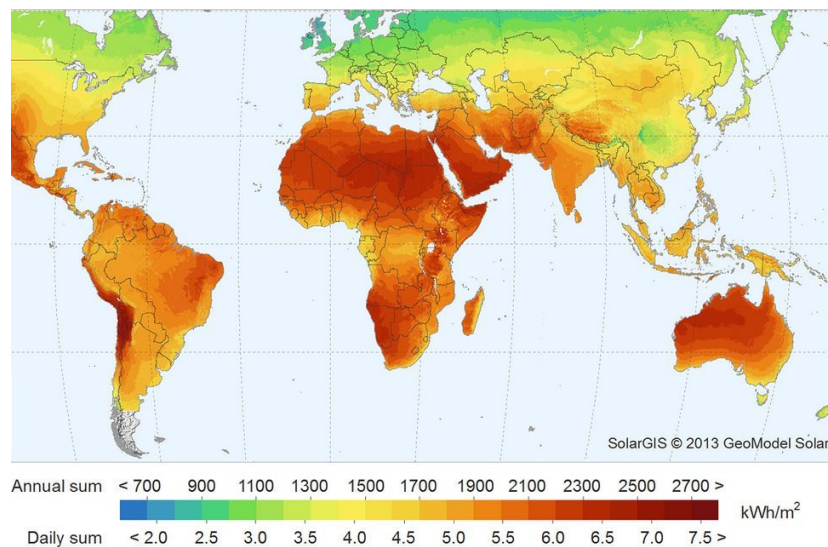




## ¿Cuál debe de ser la orientación y grado inclinación de los paneles solares en farolas LED?

Durante el día la radiación del Sol llega sobre el panel solar fotovoltaico que la transforma en energía eléctrica. Esta energía eléctrica se dirige hasta una batería donde queda almacenada para su posterior uso. Una vez que llega la noche, la energía almacenada en la batería sirve para encender las luminarias gracias al detector crepuscular que incorpora la misma placa solar.

### Mapa de radiación solar mundial:



### Debemos de distinguir 2 tipos de productos en este sentido:

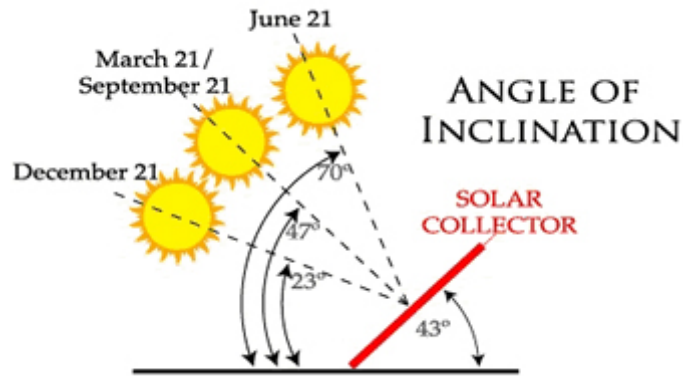
- 1º) FAROLAS SOLARES QUE INCORPORAN LA PLACA SOLAR INTEGRADA: Este tipo de productos son menos eficientes si la orientación de la placa no coincide con la colocación óptima de la farola solar.
- 2º) FAROLAS SOLARES CON PLACA ORIENTABLE INDEPENDIENTE: Desde el punto de vista de aprovechamiento de los fotones que llegan a la placa solar, al poderse orientar en condiciones óptimas, podemos tener un aprovechamiento mucho mejor que en las farolas integradas.

### ¿Qué inclinación es la mas adecuada a mi Farola led Solar?

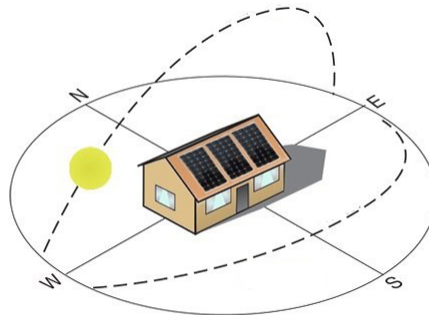
La orientación del panel será la que pueda darle en las farolas integradas, pero en las farolas donde se pueda colocar la placa solar orientable, la mejor opción es consultar en la página web: Electricity Handbook

**PUEDA USTED CALCULAR SU GRADO DE INCLINACION DE PANEL SOLAR DE LA FAROLA EN ESTE ENLACE:**

<http://www.solarelectricityhandbook.com/solar-irradiance.html>



Nosotros recomendamos (al tener un funcionamiento permanente en invierno y verano la farola solar), colocarla en siempre con el panel orientado hacia el SUR y con un ángulo en función de su latitud y la época del año. Como el plano de la tierra donde se ponga el panel varía su inclinación respecto al sol según la estación del año, intentaremos poner la placa en el ángulo para que produzca más durante el otoño e invierno. Como en otoño e invierno hay mucho menos Sol deberíamos colocarlas en posición óptima para esas épocas del año.



Mapa de líneas de Latitud del mundo:



**FACTS ABOUT LINES OF LATITUDE**

- Are known as parallels.
- Run in an east-west direction.
- Measure distance north or south from the Equator.
- Are parallel to one another and never meet.
- Cross the prime meridian at right angles.
- Lie in planes that cross the Earth's axis at right angles.
- Get shorter toward the poles, with only the Equator, the longest, a great circle.

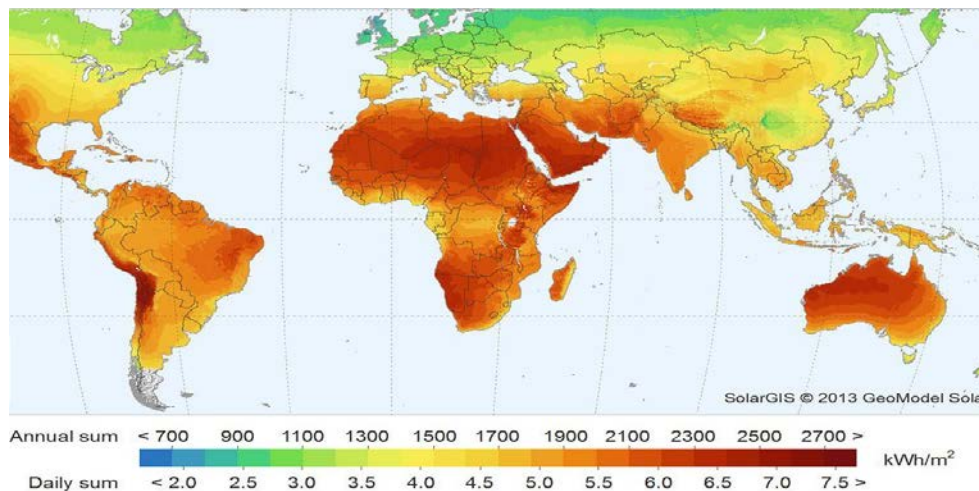


## In welcher Richtung und in welchem Neigungsgrad sollten Solarmodule in LED-Straßenleuchten ausgerichtet sein?

In einer Welt, die auf Nachhaltigkeit und Rentabilität als aktuelle Herausforderungen verweist, ist die Solarbeleuchtung eine großartige Option, die es uns ermöglicht das Beste aus den Ressourcen, die wir auf dem Planeten zur Verfügung haben, herauszuholen, den größtmöglichen Nutzen zu erzielen, die Umwelt so wenig wie möglich zu belasten und den Energieverbrauch zu senken. Der Einsatz von Straßenleuchten ist eine sinnvolle und sichere Option zur Verbesserung der Energieeffizienz.

Während des Tages trifft die Strahlung der Sonne auf das Fotovoltaik-Solarmodul, welches diese in elektrische Energie umwandelt. Diese elektrische Energie wird zu einer Batterie geleitet, wo sie für den späteren Gebrauch gespeichert wird. Bei Einbruch der Nacht wird die in der Batterie gespeicherte Energie zum Einschalten der Leuchten genutzt, dank des im gleichen Solarmodul integrierten Dämmerungssensors.

Karte der Sonneneinstrahlung weltweit:



In diesem Sinne müssen wir zwei Arten von Produkten unterscheiden:

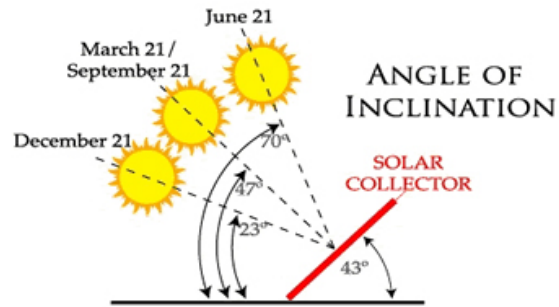
- 1.) SOLAR-STRASSENLEUCHTEN, DIE EINE INTEGRIERTE SOLARPLATTE ENTHALTEN: Diese Art von Produkten ist weniger effizient, da die Ausrichtung der Platte nicht mit der optimalen Positionierung der Solar-Straßenleuchte übereinstimmt.
- 2.) SOLAR-STRASSENLEUCHTEN MIT SCHWENKBARER UNABHÄNGIGER PLATTE: Aus der Sicht des Nutzens der Photonen, die auf die Solarplatte gelangen, und der Möglichkeit, sich bei optimalen Bedingungen orientieren zu können, können wir einen viel besseren Nutzen daraus ziehen als in den integrierten Straßenleuchten.

### Welche Neigung ist die beste für meine Solar LED Straßenleuchte?

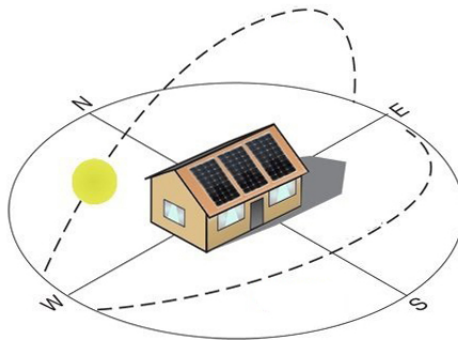
Die Ausrichtung des Panels in den integrierten Straßenleuchten entspricht derjenigen, die gegeben ist, aber in den Straßenleuchten, in denen eine schwenkbare Solarplatte platziert werden kann, ist die beste Option, auf der Webseite nachzuschlagen: Electricity Handbook.

**SIE KÖNNEN IHREN NEIGUNGSGRAD DES SOLARPANELS DER STRASSENLEUCHE UNTER DIESEM LINK BERECHNEN:**

<http://www.solarelectricityhandbook.com/solar-irradiance.html>



Wir empfehlen (bei dauerhaftem Betrieb im Winter und Sommer die solare Straßenleuchte), sie immer mit dem nach SÜDEN ausgerichteten Panel und mit einem Winkel, der vom Breitengrad und der Jahreszeit abhängt, zu platzieren. Da die Platte auf der Erdoberfläche positioniert wird und ihre Neigung in Bezug auf die Sonne je nach Jahreszeit variiert, werden wir versuchen, die Platte in dem Winkel auszurichten, sodass sie im Herbst und Winter mehr Energie erzeugt. Da es im Herbst und Winter viel weniger Sonne gibt, sollten wir sie für diese Jahreszeit optimal positionieren.



**Karte der Breitengrade der Welt:**



**FACTS ABOUT LINES OF LATITUDE**

- Are known as parallels.
- Run in an east-west direction.
- Measure distance north or south from the Equator.
- Are parallel to one another and never meet.
- Cross the prime meridian at right angles.
- Lie in planes that cross the Earth's axis at right angles.
- Get shorter toward the poles, with only the Equator, the longest, a great circle.

© Encyclopædia Britannica, Inc.

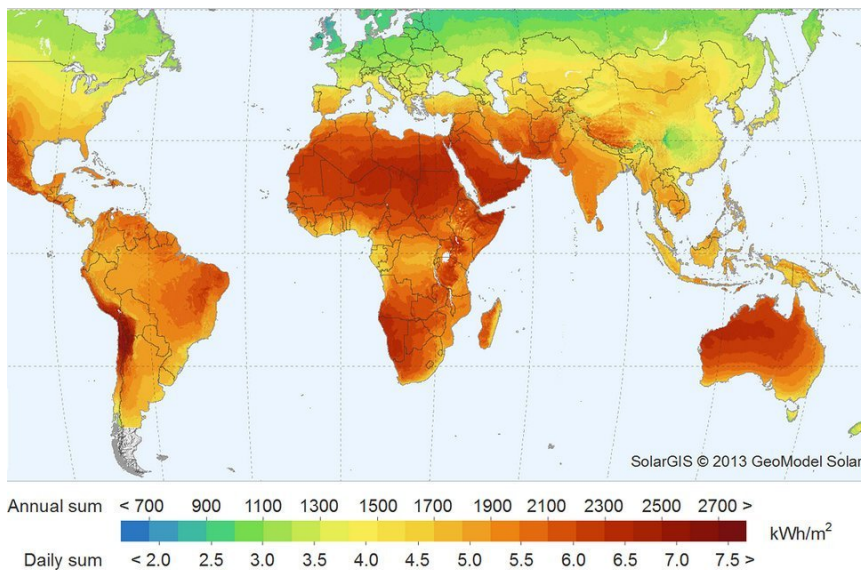


## Qual deve ser a orientação e o grau de inclinação dos painéis solares nas lâmpadas de LED?

Num mundo que aponta a sustentabilidade e a rentabilidade como desafios actuais, a iluminação solar é uma ótima opção que permite aproveitar ao máximo os recursos que temos no planeta, para obter o máximo benefício possível, causando o menor impacto possível ao ambiente, e reduzindo o consumo de energia. O uso de lâmpadas solares é uma opção viável e segura para melhorar a eficiência energética.

Durante o dia a radiação do Sol chega ao painel solar fotovoltaico que o transforma em energia elétrica. Essa energia elétrica é direcionada para uma bateria, onde é armazenada para uso posterior. Quando a noite chega, a energia armazenada na bateria serve para ligar as luminárias graças ao detector crepuscular que incorpora o mesmo painel solar.

### Mapa de radiação solar mundial:



### Devemos distinguir dois tipos de produtos a este respeito:

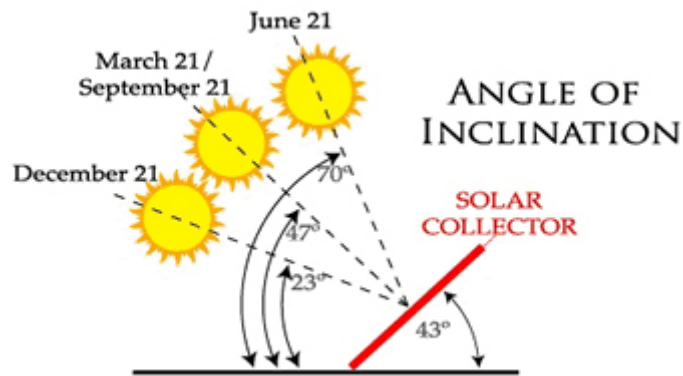
- 1) LUZES SOLARES QUE INCLUEM A PLACA SOLAR INTEGRADA: Estes tipos de produtos são menos eficientes se a orientação da placa não coincide com a colocação ideal da lâmpada solar.
- 2º) LUZES SOLARES COM PLACA ORIENTADA INDEPENDENTE: Do ponto de vista do uso dos fótons que atingem o painel solar, podendo-se orientar em condições ótimas, podemos ter um uso muito melhor do que nas lâmpadas integradas.

### Qual inclinação é mais apropriada para o meu Poste de luz solar?

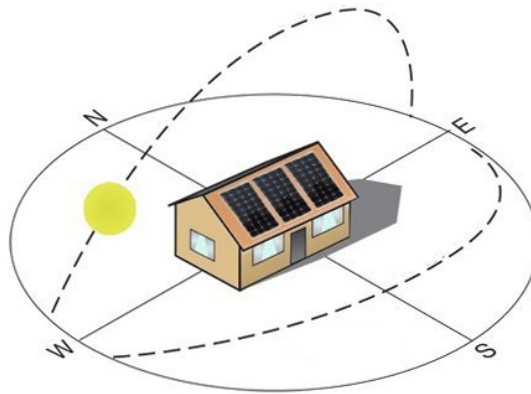
A orientação do painel será aquela que pode ser dada nas lâmpadas integradas, mas nas lâmpadas onde o painel solar ajustável pode ser colocado, a melhor opção é consultar no site: Electricity Handbook

### PODE CALCULAR O GRAU DE INCLINAÇÃO DO PAINEL DE PAINEL SOLAR NESTE LINK:

<http://www.solarelectricityhandbook.com/solar-irradiance.html>



Recomendamos (tendo uma operação permanente no inverno e no verão a lâmpada solar), coloque-a sempre com o painel voltado para o sul e com um ângulo dependendo da sua latitude e a época do ano. Como o plano da terra onde o painel é colocado varia a inclinação em relação ao sol de acordo com a estação do ano, tentaremos colocar a placa no ângulo para que ela produza mais durante o outono e o inverno. Como no outono e inverno há muito menos sol, devemos colocá-los numa posição ideal para cada época do ano.



### Mapa de linha de latitude do mundo:



#### FACTS ABOUT LINES OF LATITUDE

- Are known as parallels.
- Run in an east-west direction.
- Measure distance north or south from the Equator.
- Are parallel to one another and never meet.
- Cross the prime meridian at right angles.
- Lie in planes that cross the Earth's axis at right angles.
- Get shorter toward the poles, with only the Equator, the longest, a great circle.

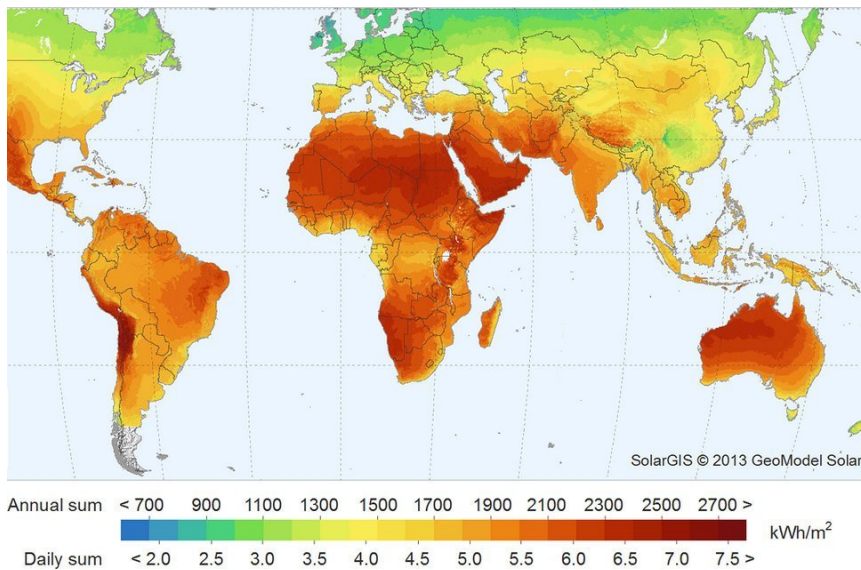




## What should be the orientation and degree of inclination of the solar panels in LED street lamps?

During the day the radiation of the Sun arrives on the photovoltaic solar panel that transforms it into electrical energy. This electrical energy is directed to a battery where it is stored for later use. Once night comes, the energy stored in the battery serves to turn on the luminaires thanks to the twilight detector that incorporates the same solar panel.

World solar radiation map:



We must distinguish 2 types of products in this regard:

1<sup>st</sup>) SOLAR LIGHTHOUSES THAT INCLUDE THE INTEGRATED SOLAR PLATE: These types of products are less efficient if the orientation of the plate does not coincide with the optimal placement of the solar lamp post.

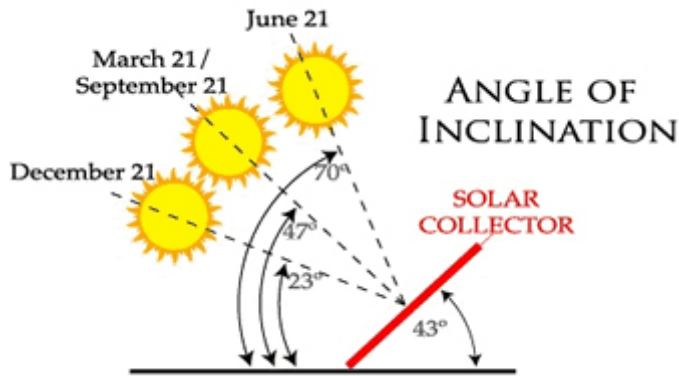
2<sup>nd</sup>) SOLAR LIGHTHOUSES WITH INDEPENDENT ORIENTABLE PLATE: From the point of view of using the photons that reach the solar panel, being able to orient in optimal conditions, we can have a much better use than in the integrated lamps.

What inclination is most appropriate for my Solar Led Streetlight?

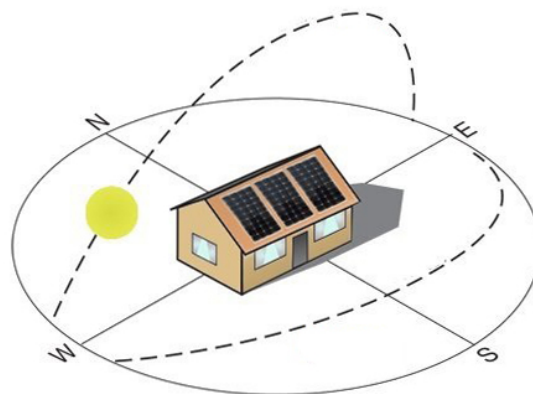
The orientation of the panel will be the one that can be given in the integrated lamps, but in the lamps where the adjustable solar panel can be placed, the best option is to consult on the website: Electricity Handbook

**YOU CAN CALCULATE YOUR GRADE OF SOLAR PANEL INCLINATION IN THIS LINK:**

<http://www.solarelectricityhandbook.com/solar-irradiance.html>



We recommend (having a permanent operation in winter and summer the solar lamp), always place it with the panel facing south and with an angle depending on its latitude and the time of year. As the plane of the earth where the panel is placed varies its inclination with respect to the sun according to the season of the year, we will try to put the plate at the angle so that it produces more during the autumn and winter. As in autumn and winter there is much less Sun we should place them in optimal position for those times of the year.



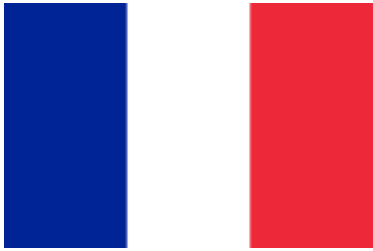
**Latitude line map of the world:**



**FACTS ABOUT LINES OF LATITUDE**

- Are known as parallels.
- Run in an east-west direction.
- Measure distance north or south from the Equator.
- Are parallel to one another and never meet.
- Cross the prime meridian at right angles.
- Lie in planes that cross the Earth's axis at right angles.
- Get shorter toward the poles, with only the Equator, the longest, a great circle.

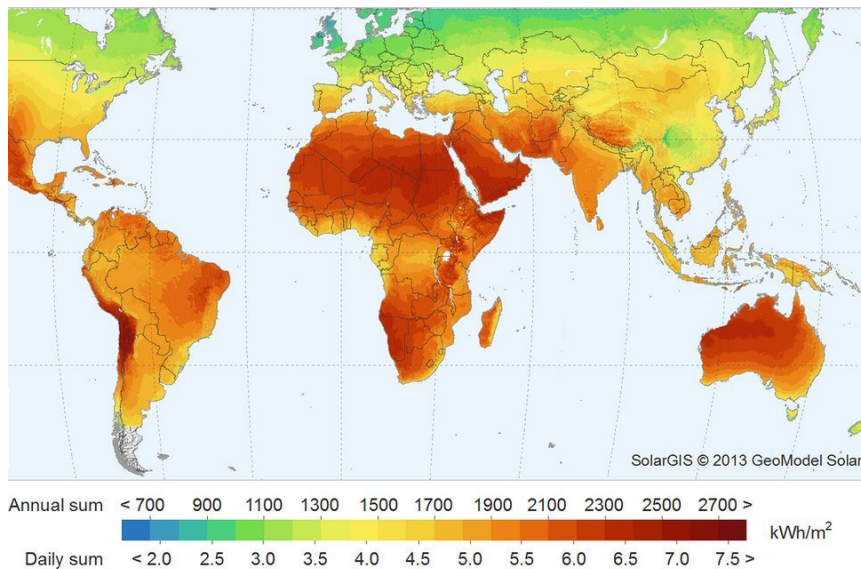




## Quelles devraient être l'orientation et le degré d'inclinaison des panneaux solaires dans les lampadaires à LED?

Pendant la journée, le rayonnement solaire arrive sur le panneau solaire photovoltaïque qui le transforme en énergie électrique. Cette énergie électrique est dirigée vers une batterie où elle est stockée pour une utilisation ultérieure. Une fois la nuit venue, l'énergie stockée dans la batterie sert à allumer les luminaires grâce au détecteur crépusculaire intégrant le même panneau solaire.

Carte du rayonnement solaire mondial:



Il faut distinguer 2 types de produits à cet égard:

1<sup>er</sup>) PHARES SOLAIRES COMPRENANT LA PLAQUE SOLAIRE INTÉGRÉE: Ces types de produits sont moins efficaces si l'orientation de la plaque ne coïncide pas avec l'emplacement optimal du lampadaire solaire.

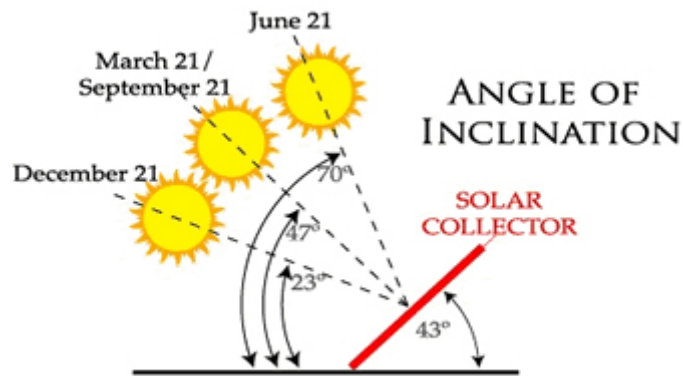
2<sup>ème</sup>) PHARES SOLAIRES AVEC PLAQUE ORIENTABLE INDÉPENDANTE: Du point de vue de l'utilisation des photons qui atteignent le panneau solaire, pouvant s'orienter dans des conditions optimales, nous pouvons avoir une bien meilleure utilisation que dans les lampes intégrées.

Quelle inclinaison est la plus appropriée pour mon lampadaire solaire à LED?

L'orientation du panneau sera celle qui peut être donnée dans les lampes intégrées, mais dans les lampes où le panneau solaire ajustable peut être placé, la meilleure option est de consulter sur le site Web: Guide de l'électricité

**VOUS POUVEZ CALCULER VOTRE GRADE D'INCLINAISON DE PANNEAU DE PANNEAU SOLAIRE DANS CE LIEN:**

<http://www.solarelectricityhandbook.com/solar-irradiance.html>



Nous recommandons (en cas de fonctionnement permanent en hiver et en été la lampe solaire), placez-la toujours avec le panneau orienté vers le sud et avec un angle dépendant de sa latitude et de la période de l'année. Comme le plan de la terre où le panneau est placé varie son inclinaison par rapport au soleil en fonction de la saison de l'année, nous allons essayer de placer la plaque à l'angle pour qu'elle produise davantage en automne et en hiver. Comme en automne et en hiver il y a beaucoup moins de soleil, nous devrions les placer dans une position optimale pour ces périodes de l'année.

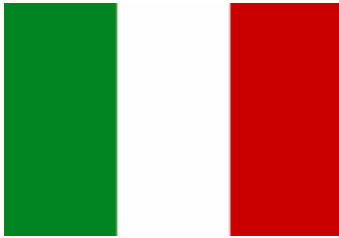
Carte de la ligne de latitude du monde:



#### FACTS ABOUT LINES OF LATITUDE

- Are known as parallels.
- Run in an east-west direction.
- Measure distance north or south from the Equator.
- Are parallel to one another and never meet.
- Cross the prime meridian at right angles.
- Lie in planes that cross the Earth's axis at right angles.
- Get shorter toward the poles, with only the Equator, the longest, a great circle.

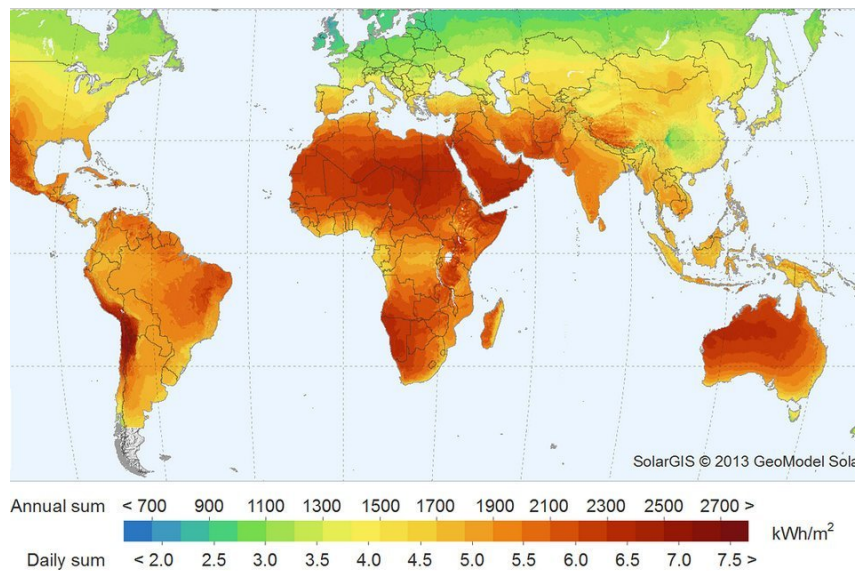
© Encyclopædia Britannica, Inc.



## Quale dovrebbe essere l'orientamento e il grado di inclinazione dei pannelli solari nei lampioni a LED?

Durante il giorno la radiazione del sole arriva sul pannello solare fotovoltaico che lo trasforma in energia elettrica. Questa energia elettrica è diretta a una batteria dove viene immagazzinata per un uso successivo. Una volta che arriva la notte, l'energia immagazzinata nella batteria serve per accendere gli apparecchi grazie al rilevatore crepuscolare che incorpora lo stesso pannello solare.

Mappa mondiale delle radiazioni solari:



Dobbiamo distinguere 2 tipi di prodotti al riguardo:

1°) FARI SOLARI CHE COMPREDONO LA PIASTRA SOLARE INTEGRATA: questi tipi di prodotti sono meno efficienti se l'orientamento della piastra non coincide con il posizionamento ottimale del lampione solare.

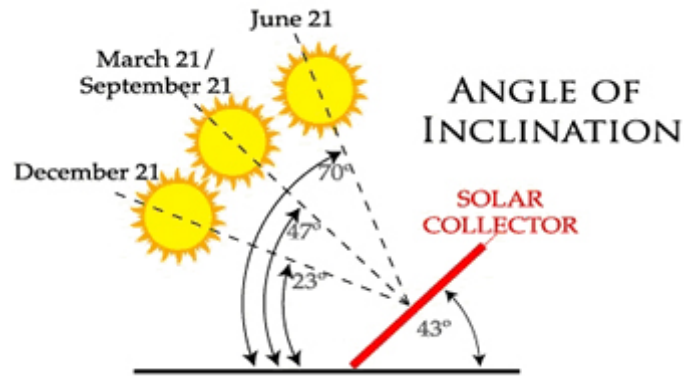
2 °) FARETTI SOLARI CON PIASTRA ORIENTABILE INDIPENDENTE: Dal punto di vista dell'utilizzo dei fotoni che raggiungono il pannello solare, potendo orientarsi in condizioni ottimali, possiamo avere un utilizzo molto migliore rispetto alle lampade integrate.

Quale inclinazione è più appropriata per il mio lampione a led solare?

L'orientamento del pannello sarà quello che può essere dato nelle lampade integrate, ma nelle lampade in cui è possibile posizionare il pannello solare regolabile, l'opzione migliore è consultare il sito Web: Manuale dell'elettricità

**PUOI CALCOLARE IL TUO GRADO DI INCLINAZIONE DEL PANNELLO DEL PANNELLO SOLARE IN QUESTO LINK:**

<http://www.solarelectricityhandbook.com/solar-irradiance.html>



Consigliamo (avendo un funzionamento permanente in inverno e in estate la lampada solare), posizionarla sempre con il pannello rivolto a sud e con un angolo a seconda della sua latitudine e del periodo dell'anno. Poiché il piano della terra in cui è posizionato il pannello varia la sua inclinazione rispetto al sole in base alla stagione dell'anno, proveremo a mettere la piastra ad angolo in modo che produca di più durante l'autunno e l'inverno. Come in autunno e in inverno c'è molto meno sole, dovremmo metterli in una posizione ottimale per quei periodi dell'anno.

Mappa linea latitudine del mondo:



**FACTS ABOUT LINES OF LATITUDE**

- Are known as parallels.
- Run in an east-west direction.
- Measure distance north or south from the Equator.
- Are parallel to one another and never meet.
- Cross the prime meridian at right angles.
- Lie in planes that cross the Earth's axis at right angles.
- Get shorter toward the poles, with only the Equator, the longest, a great circle.

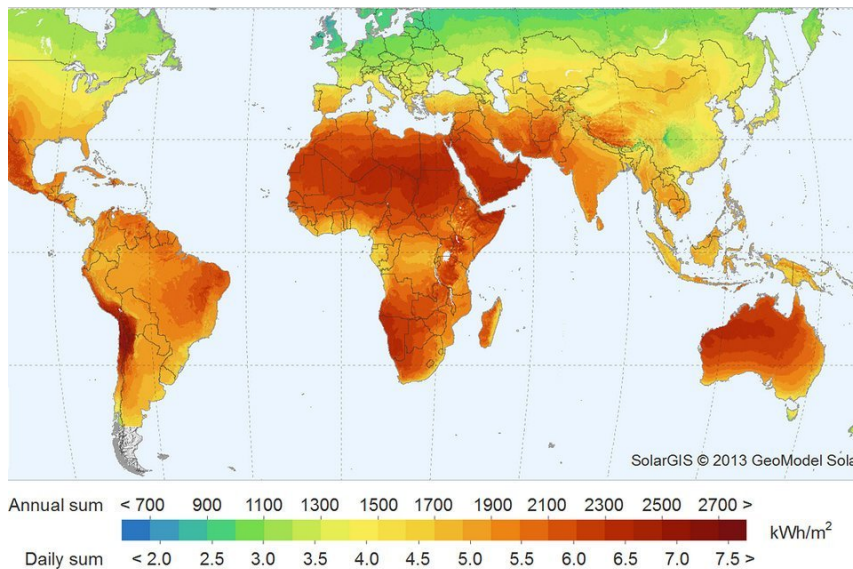
© Encyclopædia Britannica, Inc.



## Minkä pitäisi olla aurinkopaneelien suunta ja kaltevuus LED-katuvalaisimissa?

Päivän aikana aurinko säteily saapuu aurinkosähköpaneeliin, joka muuttaa sen sähköenergiaksi. Tämä sähköenergia ohjataan akkuun, jossa se varastoidaan myöhempää käyttöä varten. Kun yö tulee, akkuun varastoitu energia palvelee valojen kytkemistä päälle hämäräilmaisimen avulla, joka sisältää saman aurinkopaneelin.

Maailman aurinkosäteilykartta:



Meidän on erotettava 2 tuotetyyppiä tässä suhteessa:

1.) SOLERAVALOT, JOTKA SISÄLTÄVÄT integroidun aurinkopaneelin: Tämän tyyppiset tuotteet ovat vähemmän tehokkaita, jos levyn suunta ei vastaa aurinkolamppujen optimaalista sijoitusta.

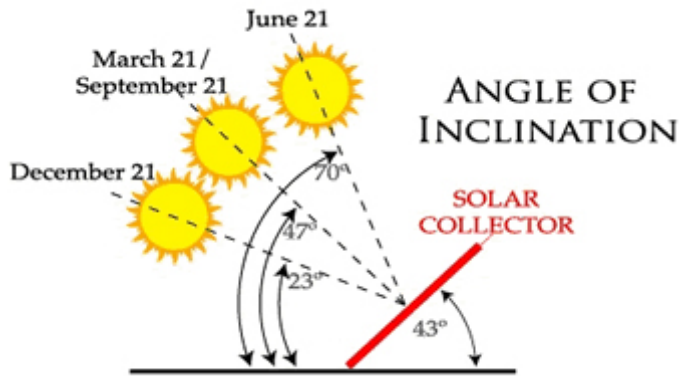
2.) SALAVALOT, JOIDEN RIIPPUMATTOMAT SUUNTAVAATTAVAT LEVYT: Aurinkopaneeliin päästävien fotonien käytön kannalta, jotta voimme orientoitua optimaalisissa olosuhteissa, voimme käyttää paljon paremmin kuin integroiduissa lamppuissa.

Mikä kaltevuus on sopivin Solar Led -katuvaloon?

Paneelin suunta on se, joka voidaan antaa integroiduissa lamppuissa, mutta lamppuissa, joihin säädettävä aurinkopaneeli voidaan sijoittaa, paras vaihtoehto on tutustua verkkosivustolle: Electricity Handbook

**VOIT LASKETTAVAKSI LAAJAKAUPPAEN Paneelin sisällyttäminen tähän linkkiin:**

<http://www.solarelectricityhandbook.com/solar-irradiance.html>



Suosittellemme (käyttämään aurinkovalaisinta pysyvästi talvella ja kesällä), aseta se aina etelään päin ja kulmassa sen leveysasteen ja vuodenaajan mukaan. Koska maan taso, johon paneeli sijoitetaan, vaihtelee sen kallistumisesta auringon suhteen vuoden vuodenaajan mukaan, yritämme laittaa levyn kulmaan niin, että se tuottaa enemmän syksyllä ja talvella. Koska syksyllä ja talvella aurinkoa on paljon vähemmän, meidän pitäisi sijoittaa ne optimaaliseen asentoon vuodenaikoina.

Maailman leveysastekartta:



**FACTS ABOUT LINES OF LATITUDE**

- Are known as parallels.
- Run in an east-west direction.
- Measure distance north or south from the Equator.
- Are parallel to one another and never meet.
- Cross the prime meridian at right angles.
- Lie in planes that cross the Earth's axis at right angles.
- Get shorter toward the poles, with only the Equator, the longest, a great circle.

© Encyclopædia Britannica, Inc.

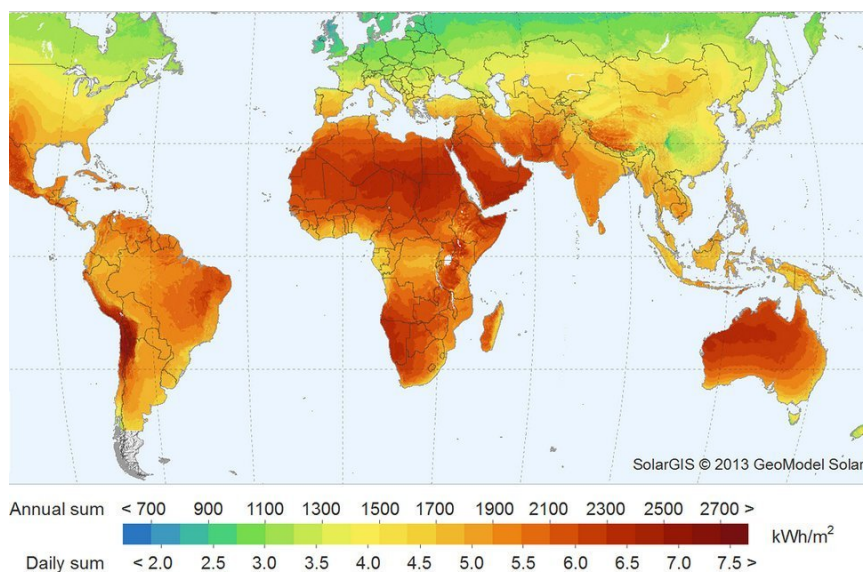




## Wat moet de oriëntatie en de hellingsgraad van de zonnepanelen in LED-straatlantaarns zijn?

Overdag arriveert de straling van de zon op het fotovoltaïsche zonnepaneel dat het omzet in elektrische energie. Deze elektrische energie wordt naar een batterij geleid waar deze wordt opgeslagen voor later gebruik. Zodra de nacht aanbreekt, dient de energie die is opgeslagen in de batterij om de armaturen in te schakelen dankzij de schemerdetector die hetzelfde zonnepaneel bevat.

### Wereldkaart zonnestraling:



### We moeten in dit verband twee soorten producten onderscheiden:

1e) ZONNEVUURTOREN DIE DE GEÏNTEGREERDE ZONNEPLAAT INBEGREPEN: dit soort producten zijn minder efficiënt als de oriëntatie van de plaat niet samenvalt met de optimale plaatsing van de lantaarnpaal.

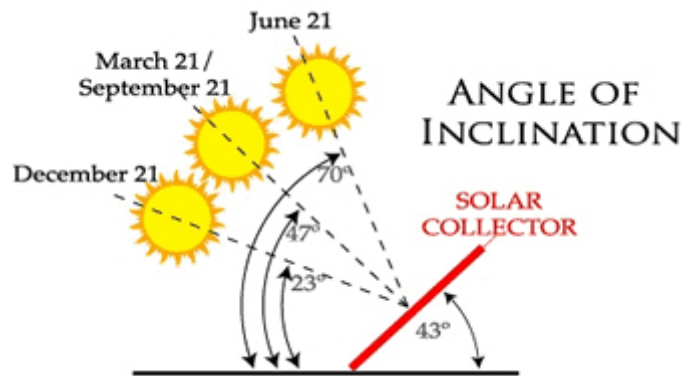
2e) ZONNE LICHTHOUSES MET ONAFHANKELIJKE ORIËNTEERBARE PLAAT: Vanuit het oogpunt van het gebruik van de fotonen die het zonnepaneel bereiken, in staat om zich in optimale omstandigheden te oriënteren, kunnen we een veel beter gebruik hebben dan in de geïntegreerde lampen.

### Welke helling is het meest geschikt voor mijn Solar Led Streetlight?

De oriëntatie van het paneel is die die kan worden gegeven in de geïntegreerde lampen, maar in de lampen waar het verstelbare zonnepaneel kan worden geplaatst, is de beste optie om te raadplegen op de website: Elektriciteitshandboek

### OP DEZE LINK KUNT U UW RANG VAN ZONNEPANEELBESCHERMING BEREKENEN:

<http://www.solarelectricityhandbook.com/solar-irradiance.html>



We raden aan (een permanente werking in de winter en zomer de zonnepaneel), plaats deze altijd met het paneel op het zuiden en met een hoek afhankelijk van de breedtegraad en de tijd van het jaar. Aangezien het vlak van de aarde waar het paneel wordt geplaatst, de helling ten opzichte van de zon varieert volgens het seizoen van het jaar, zullen we proberen de plaat in de hoek te zetten zodat deze meer produceert in de herfst en winter. Omdat er in de herfst en winter veel minder zon is, moeten we ze in die tijd van het jaar in een optimale positie plaatsen.

#### Latitude lijnkaart van de wereld:



#### FACTS ABOUT LINES OF LATITUDE

- Are known as parallels.
- Run in an east-west direction.
- Measure distance north or south from the Equator.
- Are parallel to one another and never meet.
- Cross the prime meridian at right angles.
- Lie in planes that cross the Earth's axis at right angles.
- Get shorter toward the poles, with only the Equator, the longest, a great circle.

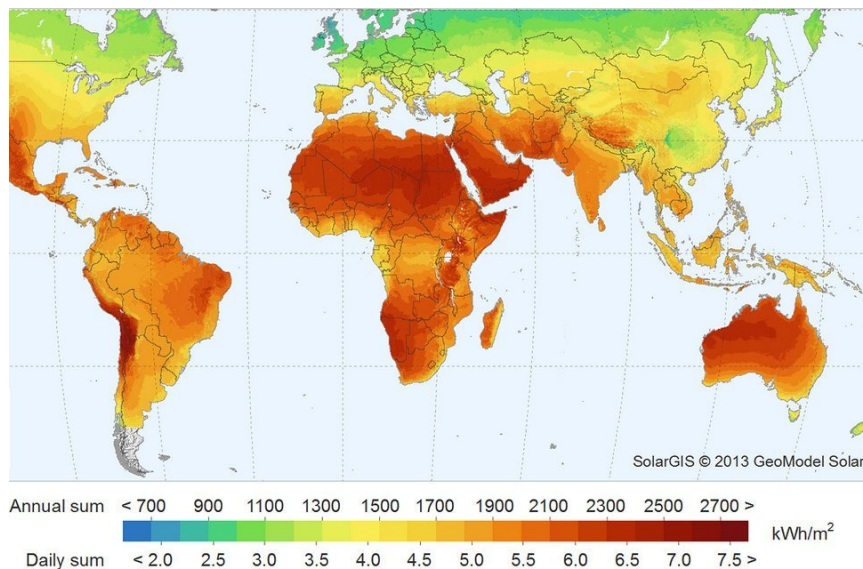
© Encyclopædia Britannica, Inc.



## Care ar trebui să fie orientarea și gradul de înclinare a panourilor solare în lămpi stradale cu LED?

În timpul zilei, radiația Soarelui ajunge pe panoul solar fotovoltaic care îl transformă în energie electrică. Această energie electrică este direcționată către o baterie unde este stocată pentru utilizare ulterioară. Odată ce vine noaptea, energia stocată în baterie servește la aprinderea corpurilor de iluminat datorită detectorului de crepuscul care încorporează același panou solar.

Harta radiației solare mondiale:



**Trebuie să distingem 2 tipuri de produse în acest sens:**

19) Lumini solare care includ placa SOLARĂ INTEGRATĂ: Aceste tipuri de produse sunt mai puțin eficiente dacă orientarea plăcii nu coincide cu plasarea optimă a farului solar.

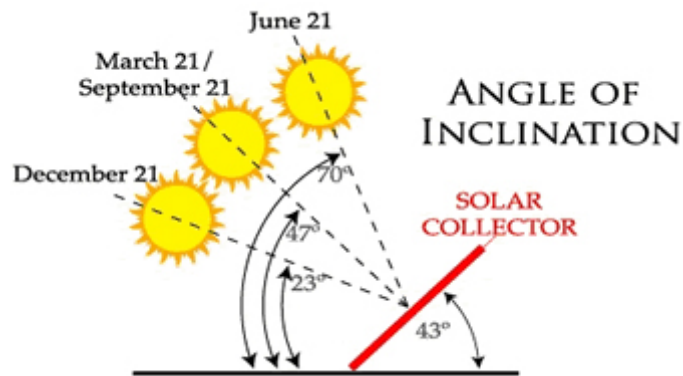
Al 2-lea) LUMINI SOLARE CU PLACĂ ORIENTABILĂ INDEPENDENTĂ: Din punct de vedere al utilizării fotonilor care ajung pe panoul solar, putând să ne orientăm în condiții optime, putem avea o utilizare mult mai bună decât în lămpile integrate.

**Ce înclinație este cea mai potrivită pentru lumina mea de lumină solară**

Orientarea panoului va fi cea care poate fi dată în lămpile integrate, dar în lămpile în care poate fi amplasat panoul solar reglabil, cea mai bună opțiune este să consultați pe site-ul web: Electricity Handbook

**PUTI CALCULA GRADUL TĂU DE INCLINARE A PANELULUI SOLAR ÎN ACEST LINK:**

<http://www.solarelectricityhandbook.com/solar-irradiance.html>



Vă recomandăm (având o funcționare permanentă iarna și vara lampa solară), așezați-l întotdeauna cu panoul orientat spre sud și cu un unghi în funcție de latitudinea și de perioada anului. Întrucât planul pământului în care este așezat panoul variază înclinația sa față de soare în funcție de anotimpul anului, vom încerca să punem placa în unghi, astfel încât să producă mai mult în timpul toamnei și al iernii. Cum toamna și iarna este mult mai puțin Soare, ar trebui să le așezăm în poziție optimă pentru acele perioade ale anului.

#### Harta liniei Latitudine a lumii:



#### FACTS ABOUT LINES OF LATITUDE

- Are known as parallels.
- Run in an east-west direction.
- Measure distance north or south from the Equator.
- Are parallel to one another and never meet.
- Cross the prime meridian at right angles.
- Lie in planes that cross the Earth's axis at right angles.
- Get shorter toward the poles, with only the Equator, the longest, a great circle.

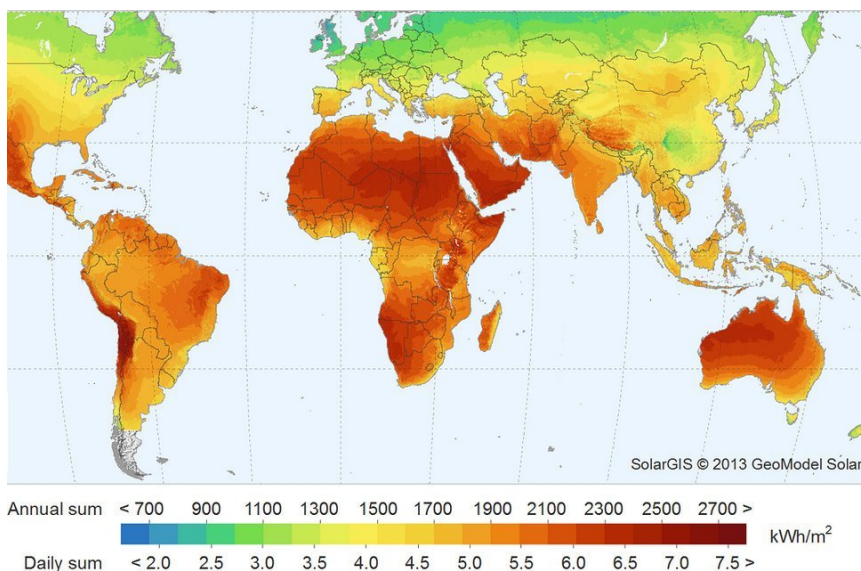
© Encyclopædia Britannica, Inc.



## Jaká by měla být orientace a stupeň sklonu solárních panelů v pouličních lampách LED?

Přes den přichází sluneční záření na fotovoltaický solární panel, který jej transformuje na elektrickou energii. Tato elektrická energie je směřována na baterii, kde je uložena pro pozdější použití. Jakmile přijde noc, energie uložená v baterii slouží k zapnutí svítidel díky detektoru soumraku, který obsahuje stejný solární panel.

Mapa světového slunečního záření:



**V tomto ohledu musíme rozlišovat 2 typy produktů:**

1.) SOLÁRNÍ SVÍTIDLA, KTERÁ ZAČNĚJÍ INTEGROVANÁ SOLÁRNÍ ŠTÍTKA: Tyto typy výrobků jsou méně účinné, pokud se orientace desky neshoduje s optimálním umístěním sloupku solární lampy.

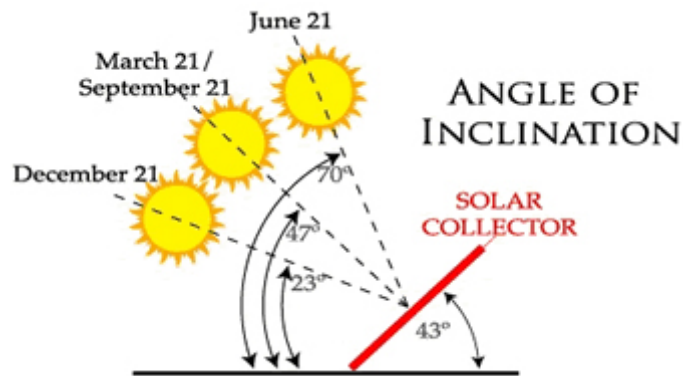
2.) SOLÁRNÍ SVÍTIDLA S NEZÁVISLÝM ORIENTABILNÍM PLATEM: Z pohledu použití fotonů, které se dostávají na solární panel, které jsou schopny se orientovat v optimálních podmínkách, můžeme mít mnohem lepší využití než v integrovaných lampách.

**Jaký sklon je pro můj Solar Led Streetlight nejvhodnější?**

Orientace panelu bude ta, která může být uvedena v integrovaných lampách, ale v lampách, kde lze umístit nastavitelný solární panel, nejlepší možností je nahlédnout na webové stránce: Elektrická příručka

**VYPOČÍTÁTE VÁŠ GRADE SOLÁRNÍHO ZAŘÍZENÍ PANELU V TÉTO LINK:**

<http://www.solarelectricityhandbook.com/solar-irradiance.html>



Doporučujeme (mít trvalý provoz v zimě a v létě solární lampu), vždy ji umístíte tak, aby panel směřoval na jih a pod úhlem v závislosti na jeho šířce a ročním období. Vzhledem k tomu, že rovina Země, kde je panel umístěn, mění svůj sklon vzhledem ke slunci podle ročního období, budeme se snažit umístit desku pod úhlem tak, aby produkovala více během podzimu a zimy. Protože na podzim a v zimě je mnohem méně Slunce, měli bychom je umístit do optimální polohy pro ty roční období.

#### Čárová mapa světa Latitude:



#### FACTS ABOUT LINES OF LATITUDE

- Are known as parallels.
- Run in an east-west direction.
- Measure distance north or south from the Equator.
- Are parallel to one another and never meet.
- Cross the prime meridian at right angles.
- Lie in planes that cross the Earth's axis at right angles.
- Get shorter toward the poles, with only the Equator, the longest, a great circle.

© Encyclopædia Britannica, Inc.

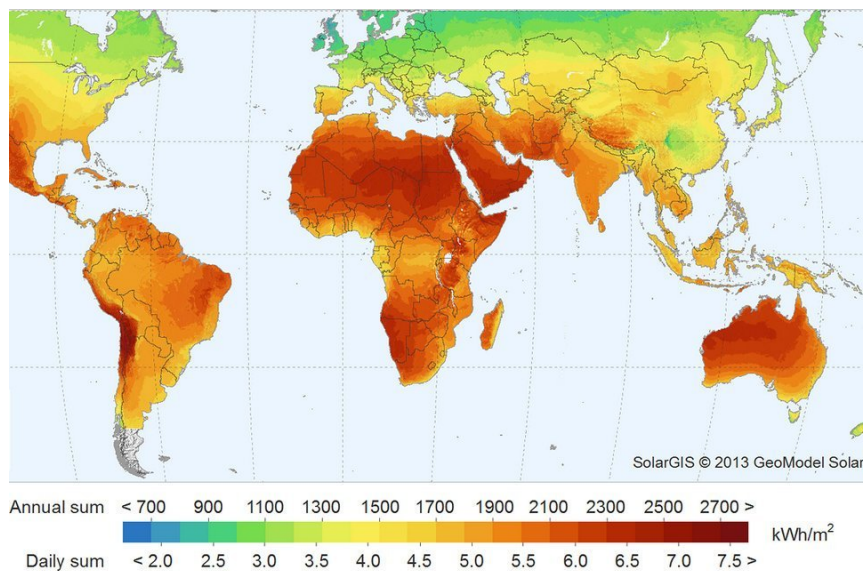




## Mi legyen a napelemek iránya és dőlésszöge a LED utcai lámpákban?

A nap folyamán a napsugárzás érkezik a fotovoltaikus napelemre, amely azt elektromos energiává alakítja. Ezt az elektromos energiát egy elemre irányítják, ahol azt későbbi felhasználásra tárolják. Ha egyszer eljön az éjszaka, az akkumulátorban tárolt energia a lámpatestek bekapcsolására szolgál annak a szűrőleti érzékelőnek köszönhetően, amely ugyanazt a napelemet tartalmazza.

A világ napsugárzásának térképe:



**Ebben a tekintetben két terméktípust kell megkülönböztetnünk:**

1.) NAPLÓ FÉNYKÉPEK, AMELYEKBE BEFEJEZIK AZ INTEGRÁLT SZOLÁRTÁMELT: Az ilyen típusú termékek kevésbé hatékonyak, ha a lemez tájolása nem egybeesik a napfényoszlop optimális elhelyezésével.

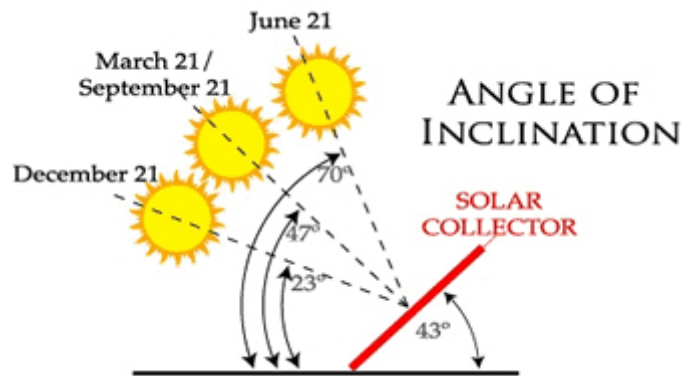
2.) NAPLÓ FÉNYKÉPEK FÜGGETLEN TÁVOLSÁGOS LEVEGŐVEL: A napelemet eljutó fotonok felhasználásának szempontjából, mivel optimális körülmények között tudunk tájékozódni, sokkal jobb felhasználást tudunk elérni, mint az integrált lámpákban.

**Milyen dőlés van a legmegfelelőbb a Solar Led Streetlight-hoz?**

A panel tájolása megadható az integrált lámpákban, de azokban a lámpákban, amelyekbe az állítható napelemet lehet elhelyezni, a legjobb megoldás a weboldalon található információk: Elektromos áram kézikönyv

**KISZÁMOLT SZABÁLYOZOTT NAPLAP PANELEK BEFEKTETÉSÉT EZEN A KAPCSOLATBAN:**

<http://www.solarelectricityhandbook.com/solar-irradiance.html>



Javasoljuk (állandó működtetést télen és nyáron a solárlámpát), mindig helyezze el úgy, hogy a panelt dél felé nézzék, és szélességétől és az évszakától függően egy szögben helyezték el. Mivel a föld síkja, ahol a panelt elhelyezzük, változik annak dőlésszögét a nap viszonylatában az évszaknak megfelelően, megpróbáljuk a lemezt olyan szögbe tenni, hogy az ősszel és télen több termeljen. Mivel ősszel és télen sokkal kevesebb a Nap, ezért az évszakokra optimális helyzetbe kell helyoznünk őket.

**A világ szélességi vonalas térképe:**



#### FACTS ABOUT LINES OF LATITUDE

- Are known as parallels.
- Run in an east-west direction.
- Measure distance north or south from the Equator.
- Are parallel to one another and never meet.
- Cross the prime meridian at right angles.
- Lie in planes that cross the Earth's axis at right angles.
- Get shorter toward the poles, with only the Equator, the longest, a great circle.

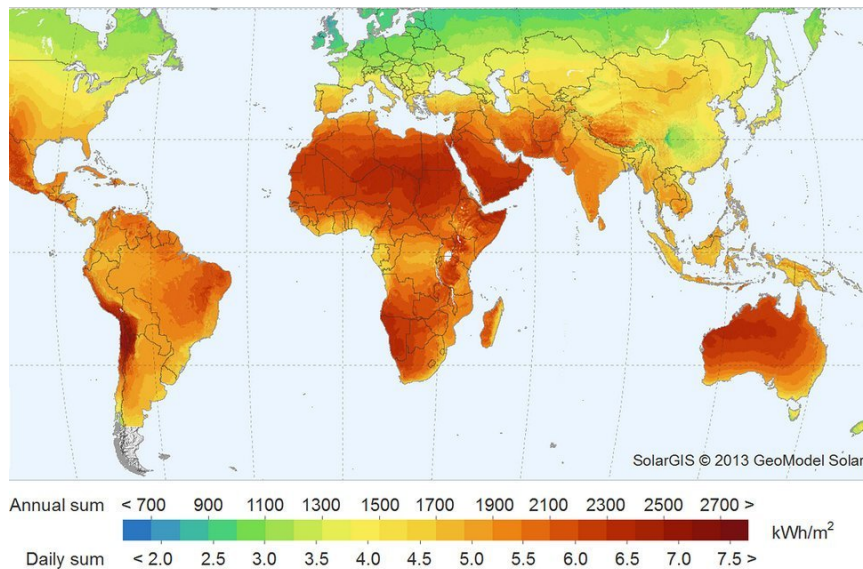
© Encyclopædia Britannica, Inc.



## Каква трябва да бъде ориентацията и степента на наклон на слънчевите панели в LED уличните лампи?

През деня радиацията на Слънцето пристига на фотоволтаичния слънчев панел, който го превръща в електрическа енергия. Тази електрическа енергия се насочва към батерия, където се съхранява за по-късна употреба. След като настъпи нощта, енергията, съхранявана в батерията, служи за включване на осветителните тела благодарение на детектора за здрач, който включва същия соларен панел.

Карта на световната слънчева радиация:



**В това отношение трябва да разграничим 2 вида продукти:**

1-а) Слънчеви светлини, които включват интегрираната соларна плоча: Тези видове продукти са по-малко ефективни, ако ориентацията на плочата не съвпада с оптималното поставяне на слънчевата лампа.

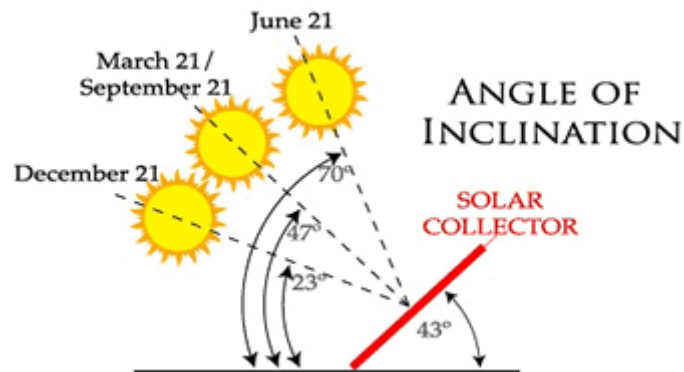
2-ри) Слънчеви светлини с независими ориентировъчни плоти: От гледна точка на използването на фотоните, които достигат до слънчевия панел, като можем да се ориентираме в оптимални условия, можем да използваме много по-добре, отколкото в интегрираните лампи.

**Какъв наклон е най-подходящ за моето улично осветление със слънчеви води?**

Ориентацията на панела ще бъде тази, която може да бъде дадена в интегрираните лампи, но при лампите, където може да се постави регулируемият слънчев панел, най-добрият вариант е да се консултирате на уебсайта: Наръчник за електричество

**МОЖЕТЕ ДА ИЗЧИСЛЕТЕ СВОЯТА ГРАДИКА НА ВКЛЮЧВАНЕ НА СЪНЪРЕН ПАНЕЛ НА ТАЗИ ВРЪЗКА:**

<http://www.solarelectricityhandbook.com/solar-irradiance.html>



Препоръчваме (с постоянна експлоатация през зимата и лятото на слънчевата лампа), винаги я поставяйте с панела, обърнат на юг и с ъгъл в зависимост от географската ширина и времето на годината. Тъй като равнината на земята, където е поставен панелът, променя своя наклон спрямо слънцето според сезона на годината, ние ще се опитаме да поставим плочата под ъгъла, така че да произвежда повече през есента и зимата. Тъй като през есента и зимата има много по-малко Слънце, ние трябва да ги поставим в оптимално положение за онези времена на годината.

**Широчина линия карта на света:**



#### FACTS ABOUT LINES OF LATITUDE

- Are known as parallels.
- Run in an east-west direction.
- Measure distance north or south from the Equator.
- Are parallel to one another and never meet.
- Cross the prime meridian at right angles.
- Lie in planes that cross the Earth's axis at right angles.
- Get shorter toward the poles, with only the Equator, the longest, a great circle.

© Encyclopædia Britannica, Inc.