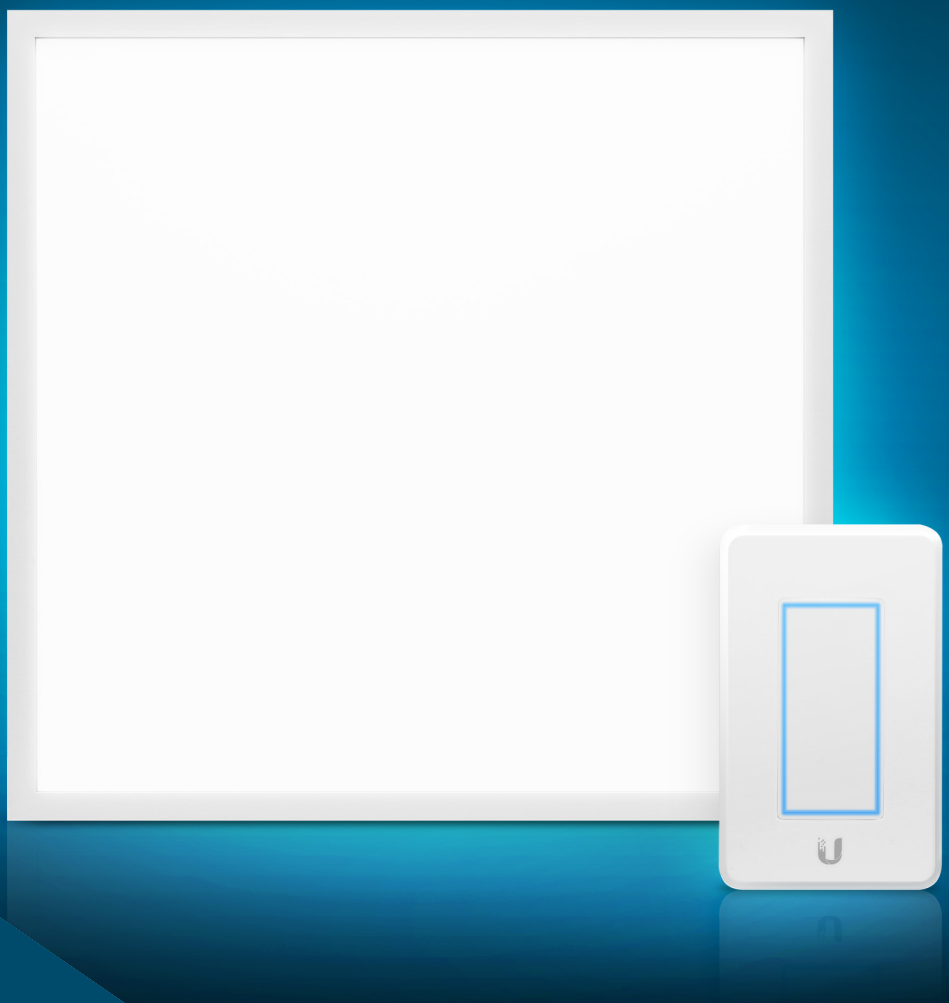
DATASHEET



UniFi® LED

LED Panel and Dimmer Switch

Models: ULED-AT, UDIM-AT

Network Managed 802.3at Powered LED Panel

802.3af Dimmer Switch for Local Control of LED Panel

Remote Control by UniFi LED Controller and UniFi LED App

UBIQUITI® NETWORKS

Network Managed Lighting

Ubiquiti Networks introduces the UniFi® EoT (Enterprise of Things) product family. Targeted for businesses of all sizes, UniFi EoT is designed to blend seamlessly into existing deployments of UniFi network systems.

Launching the UniFi EoT line are the UniFi LED Panel and UniFi Dimmer Switch. Offering the ultimate in lighting efficiency and convenience, the UniFi LED Panel fits into a standard T-grid dropped ceiling and runs on 802.3at PoE+. The panel can be controlled in three ways:

- **UniFi Dimmer Switch** Uses 802.3af PoE power and lets you directly control one or multiple LED Panels. You can switch panels on/off or adjust their brightness (10-100%).
- **UniFi LED Controller Software (Beta)** Browser-based interface, hosted on a UniFi Application Server or Ubuntu device, provides easy management of your LED devices.
- **UniFi LED App** Mobile app (iOS or Android™) allows remote configuration via an AP connected to the LAN.

Advantages

Network Manageable The UniFi LED Panel integrates seamlessly into your enterprise network, for complete control of your lighting system from a single point.

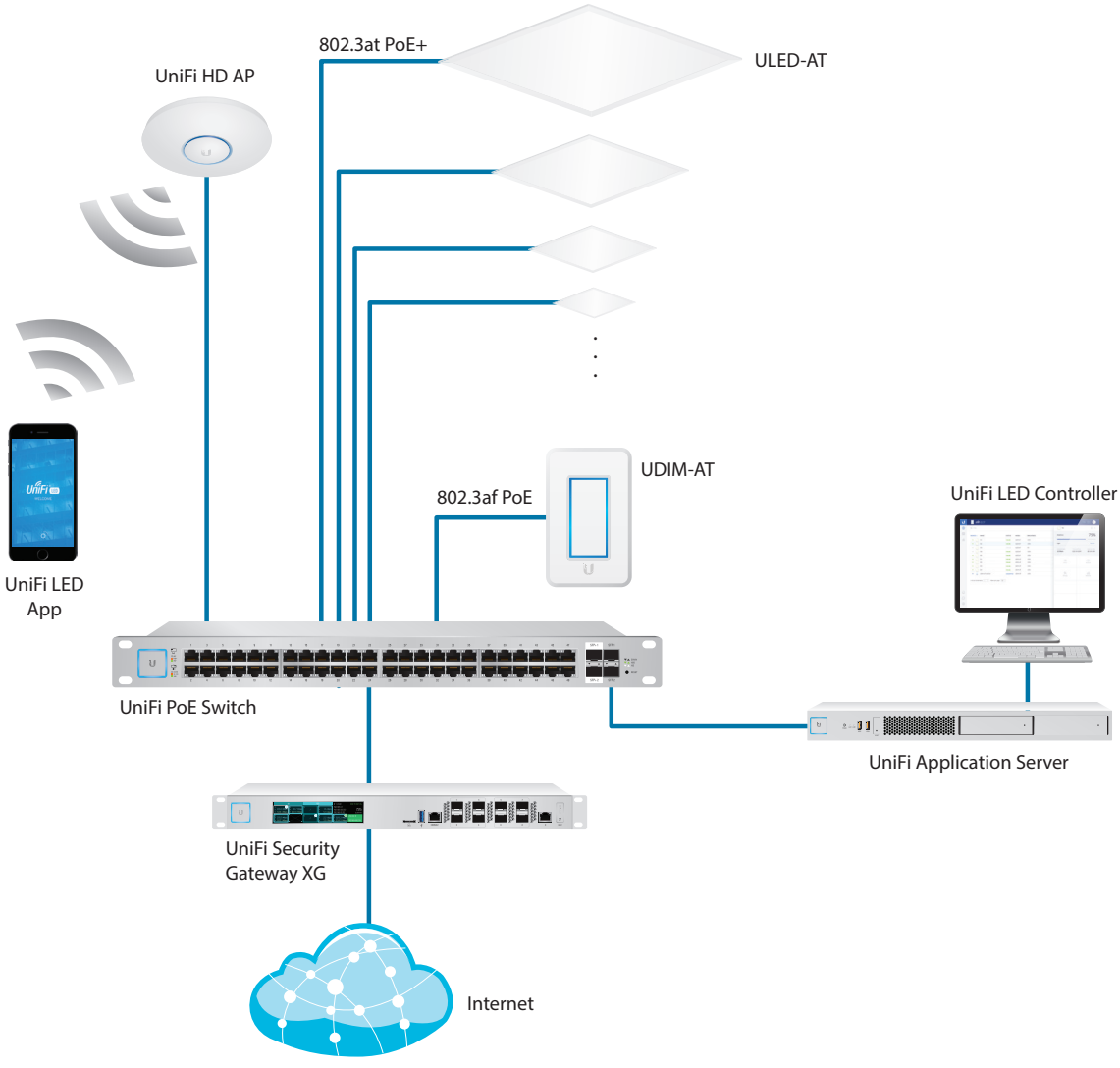
Safe, Economical Installation The UniFi LED Panel uses low-voltage DC power (PoE+), so it is safer to install than AC-powered lighting. PoE+ also does not need separate power cables, so you save on labor and cable costs.

Save Energy With 100 lm/W efficacy and 25W maximum power consumption, each UniFi LED Panel produces light more efficiently and for less money than fluorescent lighting, as detailed in *"Cost Savings Example"* on page 4.

Control Flexibility The UniFi LED Panel can be controlled remotely using the UniFi LED Controller or UniFi LED app, or locally using the UniFi Dimmer Switch.

Save on Maintenance Long-lasting LEDs (50,000+ hrs) and one LED panel versus three tubes per fixture mean less time spent changing lights, saving both time and money.

System Example



UniFi LED Controller

Packed with Features

Use the UniFi LED Controller to discover UniFi LED Panels and Dimmer Switches, control LED Panels, display device status and statistics, create and manage groups, and create and configure lighting schedules.

Device Discovery

The UniFi LED Controller automatically detects all UniFi LED Panels and Dimmer Switches that are installed on the network.

Single Point of Control

One admin can directly control your entire lighting system: Turn a panel on or off, locate a panel, reboot a panel or reset it to its factory defaults, or adjust a panel's power level.

Device Status and Statistics

The UniFi LED Controller displays device status, including device name and model, MAC address, IP address, uptime, and power level. You can also view statistics that include a graphical display of power usage for the last day, month, or year.

Lighting Groups

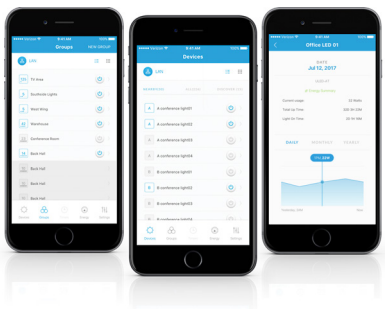
The UniFi LED Controller can manage LED Panels individually or in groups. Organizing panels into groups gives you greater control and flexibility, particularly for installations with large numbers of devices.

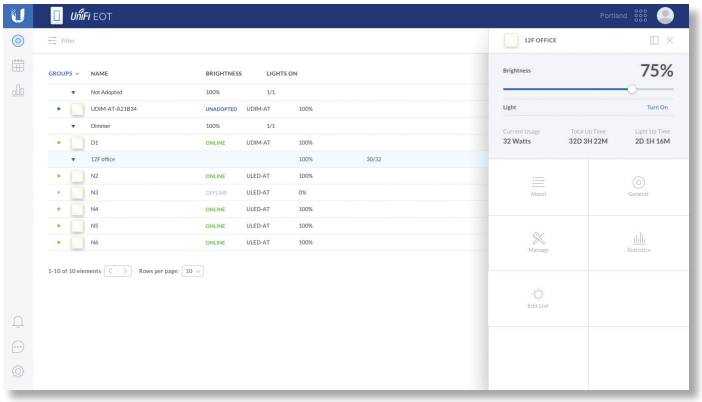
Lighting Schedules

To help maximize energy efficiency, the UniFi LED Controller lets you create schedules for specific events and for specific devices. You can have specific lights automatically turn on at a preset power level when an event begins, and then off again when the event ends.

UniFi LED App

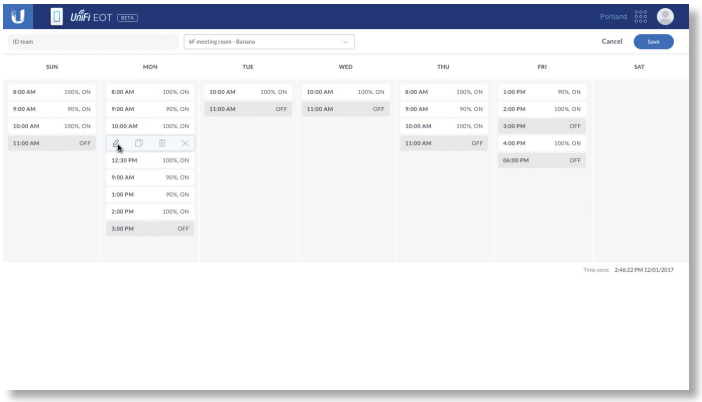
The UniFi LED App allows you to control and configure your UniFi LED lighting system from a mobile device, such as a smartphone (iOS or Android) or tablet. The app has all of the features of the UniFi LED Controller, including device discovery, group management, and schedule configuration. The app can also find and control nearby UniFi LED Panels using Bluetooth.





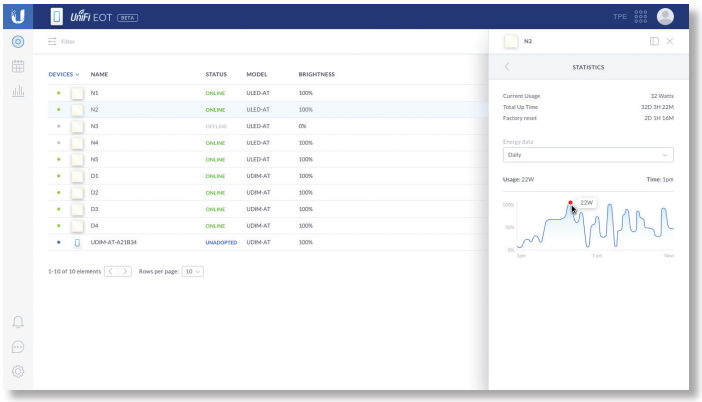
Dashboard

See a visual representation of your lighting system, including device location, groups, and status.



Scheduling

Easily set up schedules to control on/off times and power levels for groups.



Power Consumption

Use the UniFi LED Controller to display detailed statistics on power consumption.

Cost Savings Example

The following is a real-world example that shows the potential savings in energy and maintenance as a result of deploying UniFi LED Panels instead of fluorescent lighting. We will consider three scenarios:

- T5 fluorescent tubes
- T8 fluorescent tube
- UniFi LED Panels

For each scenario, the following are assumed:

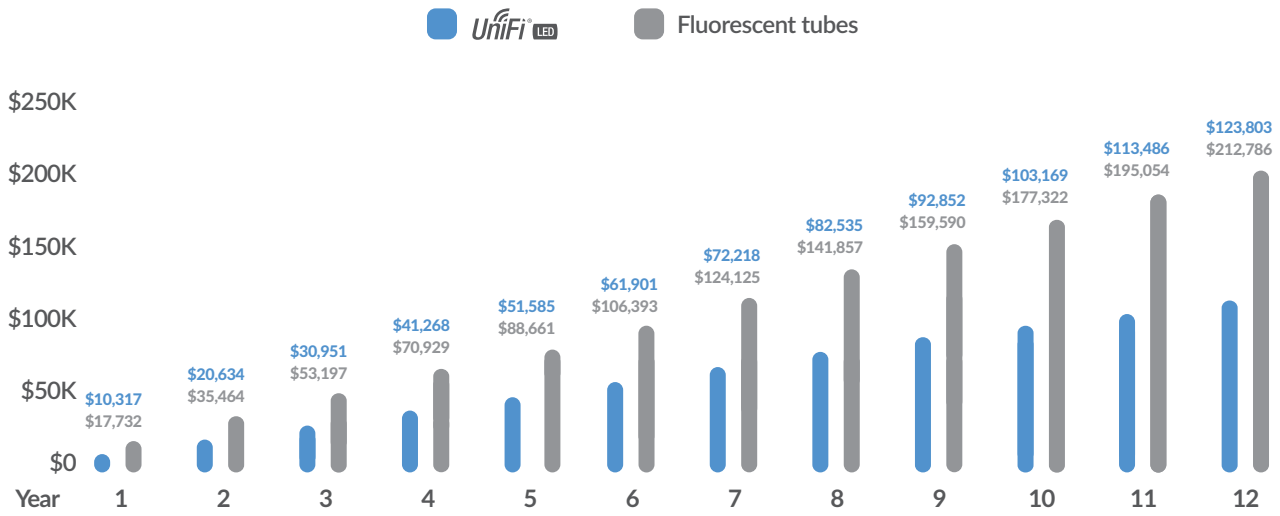
- Each troffer holds 3 fluorescent tubes or 1 UniFi LED Panel
- Each troffer can light 4 m^2 of space
- A 3,072 m^2 office space needs 2,304 T8 tubes (768 troffers)
- Each troffer is on for 3588 hours/year (12 hrs/day × 5 days/week × 52 weeks/year + extra 15%)
- Energy rate* (California) = $0.156/kWh

Energy Cost

Characteristic	T5 Tubes	T8 Tubes	UniFi LED Panel
Energy Efficiency per Troffer (lm/W)	100	80	100
Nominal Brightness per Tube (lm)	1100	1100	-
Energy Consumption per Tube (W)	11	13.75	-
Nominal Brightness/Troffer (lm)	3300	3300	2400
Brightness Loss (%)	40	40	20
Actual Brightness/Troffer (lm) (Nominal Brightness - Brightness Loss)	1980	1980	1920
Energy Consumption/Troffer (W)	33	41.25	24
Energy Consumption/Year (kWh)	118.4	148.0	86.1
Energy Cost/Year	$13,822	$17,278	$10,052
Energy Cost over 12 Years	$165,864	$207,330	$120,628

The chart below illustrates the total annual cost of using 768 UniFi LED Panels vs. 768 fluorescent troffers (three T8 tubes per troffer) to light a 3,072 m^2 office over a 12-year span with a rate* of $0.156/kWh.

As the chart shows, UniFi LED Panels use considerably less energy than T8 tubes and have a significantly lower operating cost per year.



Cost Comparison for UniFi LED Panels vs. Fluorescent (T8) Tubes

* *Average commercial rate for California as of May 2018. Source: U.S. Energy Information Administration*

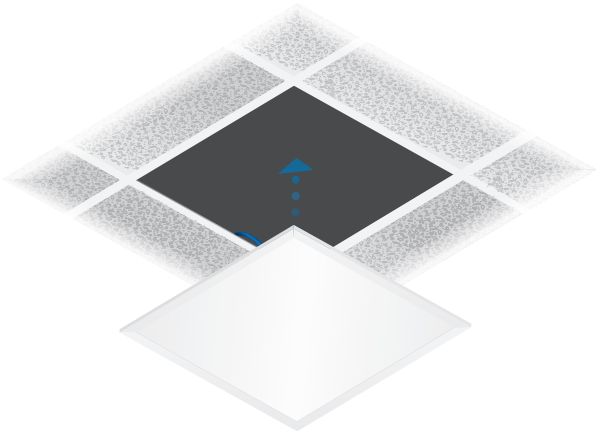
Maintenance Cost

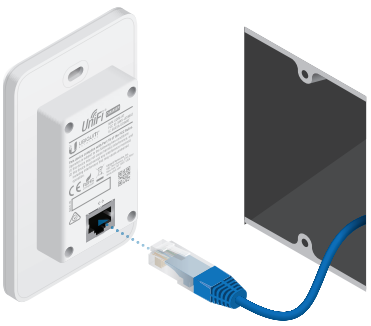
Characteristic	T5 Tubes	T8 Tubes	UniFi LED Panel
Life Span (hrs)	50,000	24,000	50,000
Tubes/Panels Installed in Office Space (4,956 m^2)	2304	2304	768
Total Operating Time (hours)	8,266,752	8,266,752	2,755,584
Average Number of Tubes/Panels Replaced per Year	165.3	344.4	55.1
Time Spent on Replacement (minutes)	5	5	5
Total Time Spent on Replacements per Year (hours)	13.78	28.70	4.59
Labor Cost ($/hour)	$100	$100	$100
Total Cost for Replacement	$1,378	$2,870	$459

Hardware Overview

The UniFi LED Panel and UniFi Dimmer Switch can be deployed in a variety of environments, including commercial office buildings, schools, and hospitals. Both require only Ethernet cabling to receive power and connect to the network.

The UniFi LED Panel is available in single- and two-packs, and the UniFi Dimmer Switch is available in single- and five-packs.





Accessories

The following accessories are available for the UniFi LED Panel and UniFi Dimmer Switch.

UniFi XG SERVER

UniFi Application Server

Model: UAS-XG

The UniFi Application Server, model UAS-XG, is an Ubuntu-based server capable of securely running all of your business applications. It integrates UniFi, UniFi Protect®, and UniFi LED software for centralized management of your UniFi devices.

UniFi | SWITCH

UniFi PoE Switch

Models: US-8-150W, US-16-150W, US-24-250W, US-24-500W, US-48-500W, US-48-750W

These UniFi Switches are fully managed, PoE+ Gigabit switches, delivering robust performance and intelligent switching for growing networks.

Specifications

UniFi LED Panel

ULED-AT	
Dimensions LED Panel Thickness	602 x 602 x 56.7 mm (23.7 x 23.7 x 2.23") 12 mm (0.47")
Weight	4.5 kg (9.9 lb)
Networking Interface	10/100 Ethernet Port
Connectivity	Bluetooth 4.1
Buttons	Reset
LEDs	Status
Power Method	802.3at PoE+
Supported Voltage Range	42.5 to 57.0VDC
Maximum Power Consumption	25.5W
Mounting	Recessed 2' x 2' Drop Ceiling Grid
Operating Temperature	0 to 40° C (32 to 104° F)
Operating Humidity	10 to 90% Noncondensing
Certifications	CE, FCC, IC

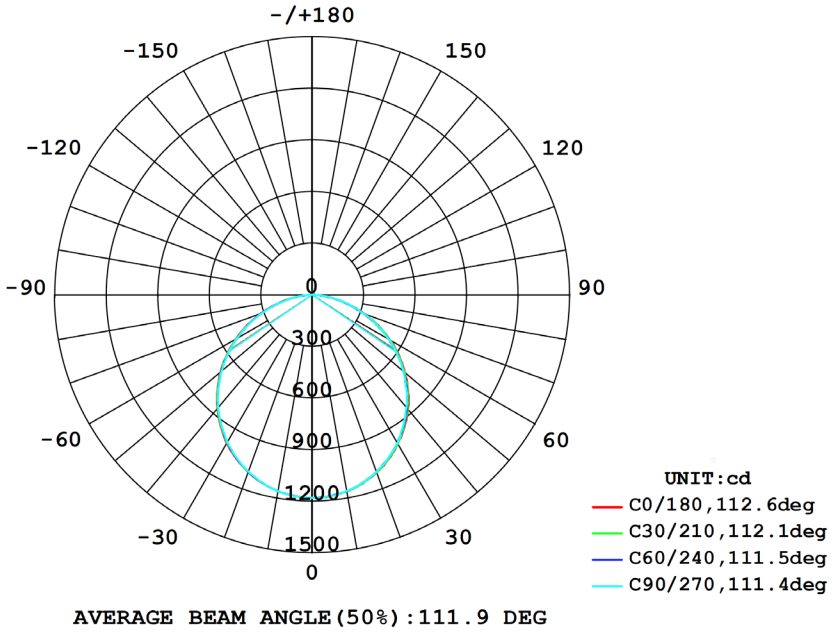
Lighting	
Initial Delivered Luminance (Max.)	2300 lm
Efficacy	100 lm/W*
CCT	4,000 K
Lifetime Rating	L80 > 50,000 hrs
CRI	> 80
Beam Angle	114°
Brightness Control	10-100% Dimming
Environment	Indoor Dry Location

** Based on power delivered to the LED Panel*

UniFi Dimmer Switch

UDIM-AT	
Dimensions	71 x 115 x 25 mm (2.8 x 4.53 x 0.98")
Weight	90 g (3.2 oz)
Management Interface	UniFi LED Controller UniFi LED App
Networking Interface	10/100 Ethernet Port
Buttons	Reset
LEDs	Status
Power Method	802.3af PoE
Power Supply	UniFi Switch (802.3af)
Supported Voltage Range	48V
Max. Power Consumption	5W
Max. LED Panels per Dimmer Switch	128 (Recommended)
Operating Temperature	10 to 40° C (50 to 104° F)
Operating Humidity	10 to 90% Noncondensing
Certifications	CE, FCC, IC

Light Distribution Curve



Luminance Data

Luminance Data (candela/m²)			
Angle	0°	45°	90°
65°	2246	2235	2232
75°	2051	2022	2018
85°	1821	1719	1761

Luminous Distribution Intensity

Luminous Distribution Intensity (candela)			
Angle	0°	45°	90°
0°	824	825	825
5°	820	821	821
10°	809	810	810
15°	791	791	792
20°	765	766	766
25°	732	734	734
30°	693	695	696
35°	649	650	651
40°	599	600	601
45°	545	546	547
50°	487	487	488
55°	425	425	425
60°	362	361	361
65°	296	295	295
70°	231	229	228
75°	167	165	164
80°	107	104	104
85°	51.5	48.6	49.5
90°	6.46	6.69	5.13

Zonal Flux Data

Zonal Lumen Summary		
Zone	Lumens	% of Fixture
0-30°	638.7	26.6%
0-40°	1045	43.5%
0-60°	1843	76.8%
0-90°	2358	98.3%

Utilization Factors

		Coefficient of Utilization															
RC		80%			70%			50%			30%			10%			0%
RW		50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0%
RCR	0	0.84	0.84	0.84	0.82	0.82	0.82	0.78	0.78	0.78	0.74	0.74	0.74	0.71	0.71	0.71	0.69
	1	0.73	0.70	0.67	0.71	0.68	0.66	0.68	0.66	0.63	0.65	0.63	0.61	0.62	0.61	0.59	0.58
	2	0.63	0.59	0.54	0.62	0.57	0.54	0.59	0.55	0.52	0.57	0.54	0.51	0.54	0.52	0.50	0.48
	3	0.56	0.50	0.45	0.54	0.49	0.45	0.52	0.47	0.44	0.50	0.46	0.43	0.48	0.45	0.42	0.40
	4	0.49	0.43	0.38	0.48	0.42	0.38	0.46	0.41	0.37	0.44	0.40	0.37	0.43	0.39	0.36	0.34
	5	0.44	0.38	0.33	0.43	0.37	0.33	0.41	0.36	0.32	0.40	0.35	0.32	0.38	0.34	0.31	0.30
	6	0.40	0.33	0.29	0.39	0.33	0.28	0.37	0.32	0.28	0.36	0.31	0.28	0.35	0.31	0.27	0.26
	7	0.36	0.30	0.25	0.35	0.29	0.25	0.34	0.29	0.25	0.33	0.28	0.25	0.32	0.28	0.24	0.23
	8	0.33	0.27	0.23	0.32	0.26	0.22	0.31	0.26	0.22	0.30	0.25	0.22	0.29	0.25	0.22	0.20
	9	0.30	0.24	0.20	0.30	0.24	0.20	0.29	0.24	0.20	0.28	0.23	0.20	0.27	0.23	0.20	0.18
	10	0.28	0.22	0.18	0.27	0.22	0.18	0.26	0.22	0.18	0.26	0.21	0.18	0.25	0.21	0.18	0.17

Software

UniFi LED Controller	
Platforms	UniFi Application Server 0.5.0 Ubuntu 16.04 LTS (Xenial Serus) 64-bit Debian 9 64-bit
Minimum Memory Requirement RAM Storage	 2 GB 16 GB
CPU	64-bit (x64)
Features Control Monitoring Management	 On/Off, Brightness, Locating, Grouping Device Status, Power Usage, Up Time, Light Up Time, Energy Statistics Reboot, Factory Reset, Forget Device
Filters	LED Panels, Dimmer Switches
Scheduling	On/Off Times, Brightness, One-time/Recurring
Management Interface	Web UI

UniFi LED App	
OS	iOS, Android
Features Control Monitoring Management	 On/Off, Brightness, Locating, Grouping Device Status, Power Usage, Up Time, Light Up Time, Energy Statistics Reboot, Factory Reset, Forget Device
Filters	LED Panels, Dimmer Switches

UniFi Switch Compatibility

The UniFi switches are compatible with UniFi LED products as detailed below.

UniFi LED Product	US-8	US-8-60W	US-8-150W	US-16-150W	US-24-250W	US-24-500W	US-48-500W	US-48-750W
ULED-AT	–	–	✓	✓	✓	✓	✓	✓
UDIM-AT	✓	✓	✓	✓	✓	✓	✓	✓

✓ Compatible with the UniFi switch

Related Product Datasheets

UniFi Application Server:

dl.ubnt.com/datasheets/unifi/UniFi_XG_Server_DS.pdf

UniFi PoE Switches:

dl.ubnt.com/datasheets/unifi/UniFi_PoE_Switch.pdf