

2022 LED LAMP
COMPARISON CHARTS

sponsored by



LIGHTBULB MOMENT

BY MCKENNA CORSON



Light Up Their Holidays

Holiday lighting supplies
will be available at your
local Ewing this Fall.



Sign up for our E-newsletter
to stay updated



EwingIrrigation.com

EWING

100
YEARS



Photo: Unique Lighting Systems

Professionals provide advice to create successful landscape lighting.

Lighting holds immense power. It provides the ability to go about our days before sunrise and after sunset. It creates certain moods and atmospheres. It can completely change how things look.

In landscape lighting, the difference between a good and bad installation can be night and day.

“It doesn’t matter how pretty a fixture is, it’s what goes on the inside that matters,” says Tom Garber, president of EmeryAllen LLC, Mt. Pleasant, South Carolina. “Using the correct lamp and understanding lighting can take years of experience.”

But for those contractors just starting their journey into landscape lighting, professionals provide their advice on how to elevate lighting installations into eye-catching, meaningful and safety-providing designs.

ASSESS THE SITUATION

There are numerous aspects that go into good landscape lighting design. The most important part and first place to start is for a contractor to get to the root of the project, says Kevin Smith, national technical support and trainer at Brilliance LED, Phoenix.

“Lighting is subjective,” Smith says. “What you like in lighting will be different from others.”

Smith advises contractors ask clients “Why light?” Dig into the purpose behind the lighting job. Is it to provide security, beauty or a marriage of both? Find out how a client is going to use the area and what mood or effect they want the space to have.

“That will lead you to create a design and specify the right lamp style, wattage and color that fits the customer’s needs and wants,” Smith says.

“

A NEWER CONTRACTOR MAY WANT TO MAKE THE SCENE LOOK LIKE IT DOES DURING DAYLIGHT, BUT THIS IS GENERALLY A POOR IDEA. LANDSCAPE LIGHTING SHOULD ENHANCE THE LANDSCAPE.”

- TODD GOERS,
WAC LANDSCAPE LIGHTING

BREAK DOWN DESIGN

Once the contractor understands the client's goals, it's time to devise how they can meet them in the design process. Thinking about the client's vision, a contractor needs to decide the illumination level and type needed to create it, says Tom Kuenzi, technical service representative for Unique Lighting Systems, Riverside, California.

“It all depends on what you're lighting and what the desired effect is,” says Kuenzi, “Focal points are bright; walkways and sitting areas can be dim.”

Average uplighting of trees and homes requires 5-13 watts of power, Kuenzi adds. Average path lighting, area lighting and step lighting need about 2 watts of power, but this depends on the LED manufacturer.

“Find a quality manufacturer and stick with them, getting used to their product line, color temp and illumination output,” Kuenzi says.

Contractors also need to decide what lighting techniques they need to fashion the intended effect, like washing, grazing, uplighting, downlighting and accent lighting.

Both washing and accent lighting will require fixtures with softer or lower wattage and typically wider beam angles, says Evan Kruk, marketing manager for AMP Lighting, Lutz, Florida. Highlighting areas will require a more focused or tighter beam, and in some cases, higher wattage.

For directional lamps, areas that need more light coverage may need a larger lamp type and fixture like a PAR36 lamp. For tight areas and smaller objects, Kruk emphasizes using a smaller lamp and fixture such as an MR11 lamp. The MR16 is one of the most commonly used lamps for uplighting.

For most home illumination, Kruk says he sees lighting designers choosing lamps that provide around 300 lumens for one-story homes and lamps that provide around

400-500 lumens for a full two-story or greater home. The most commonly used beam angles for directional lamps are 35-60 degrees.

“A variety of different beam angles can be used in order to illuminate a home evenly and consistently,” Kruk says.

Todd Goers, national sales manager of WAC Landscape Lighting, Port Washington, New York, reminds contractors to also take into account a space's ambient light, plant thickness and the object's natural color.

“(They) all play a role in determining brightness level, Kelvin temperature selection and beam angle,” Goers says.

ADVICE FOR BEGINNERS

When designing landscape lighting, Kruk says he frequently witnesses contractors opt for the brightest lamps possible to solve any coverage issues. However, this can actually make a landscape and home look flat, create unattractive shadowing and hotspots, and wash out the detail intended to be enhanced.

“Instead, use more fixtures with less intensity to add more depth and character to your landscape and home,” Kruk says. “This may mean repositioning fixtures to accommodate the change in coverage.”

Assuming that a lot of light is necessary for good landscape lighting design is a major mistake.

“Less is best,” says Garber.

Another commonly made mistake is that newer contractors fail to consider glare from the primary viewing angle, says Goers.

“As the saying goes, ‘You want to showcase the effect of the light and not the light source itself,’” says Goers.

Goers also emphasizes the importance of selecting the proper color and Kelvin temperature of fixtures on a project. Contractors should be mindful that objects look very different at 2,700K, 4,000K and 5,000K.



Photo: Unique Lighting Systems



Photo: Volt Lighting



Photo: Unique Lighting Systems



Photo: Unique Lighting Systems

“A newer contractor may want to make the scene look like it does during daylight, but this is generally a poor idea,” Goers says. “Landscape lighting should enhance the landscape.”

When it comes to deciding on the right color temperature on surfaces being lit, Kuenzi emphasizes contractors turn to the color of the home and plant materials.

“A modern home with a lot of gray, white or stainless surfaces can look dingy or have an orange tint to them when using a warm white 2,700K LED,” Kuenzi says. “In this case a white LED 3,000K would be best.”

Alternatively, a warm-colored home with earth tones of tan, brown, yellow and even some warmer white may be better suited for a warm white 2,700K LED, says Kuenzi.

When it comes to lighting any greenery, “Most plant material should have a true, untinted color. Greens are green. Reds are red. Yellow is yellow,” Kuenzi says. “These are best suited to a pure white LED from 3,000K to 5,000K in color temp.”

Kruk urges contractors to avoid selecting color temperatures that clash with existing lights, which can create an imbalance and stand out from one another.

“Selecting a color temperature that matches throughout the entire landscaping and home is important and will typically only vary in outdoor dining areas or seating areas,” Kruk says.

He provides an example of successful varied temperatures in one space of using warm colors for landscape lighting with some cooler lighting for moonlighting in areas. Or, cooler color temperatures for landscape lighting, but warmer, amber colors for outdoor dining and intimate areas.

Smith’s greatest piece of landscape lighting advice for new contractors is to always be aware of ambient light sources. He suggests contractors drive by a client’s home at night prior to the appointment to take note of any street-

lights, coach lights or wall packs that could interfere with their design.

“Keep in mind that rural areas are very dark,” says Smith. “In these situations, a little bit of light can go a long way, so don’t overdo it.”

“Every job is going to be different in some ways, so try ordering lamps separately from fixtures. This gives you the flexibility to try different options and find what works best.”

PRACTICE MAKES PERFECT

Knowing how to design and install good landscape lighting is an art in itself, taking years for landscape lighting professionals to master. For contractors just spreading their lighting wings, Garber encourages they find a mentor, join industry associations like the Association of Outdoor Lighting Professionals, attend events and speak with manufacturers willing to teach them how landscape lighting works.

To Smith, expertise in landscape lighting is all about experience.

He urges new contractors perform night demonstrations to learn how beam angles and Kelvin temperatures work. Study the photometric charts of the manufacturer’s lamps to understand how light will be displayed on different subjects. Study natural effects like downlighting, back-lighting and mirror lighting with different lamps, and practice with uplighting as well. Test lamps on different plant material and architecture. Even test out colored lamps, as “Sometimes a little touch of color can add a conversation piece to a project.”

“The old adage is practice makes perfect,” Smith says. 🌟

McKenna Corson is the digital content editor for *Irrigation & Lighting* and can be reached at mckennacorson@irrigation.org.



CHECK OUT
**AMBIENT LIGHT
 SOURCES**
 AT NIGHT
 PRIOR TO THE
 MEETING WITH
 THE CLIENT.

2022 LED LAMP COMPARISON CHARTS

Editor's note: Information presented in these charts was provided by manufacturers. Please contact the manufacturer directly for more details.

Thanks to Ewing for sponsoring this year's LED Lamp comparison charts.



To download a copy of these comparison charts, go to irrigationandlighting.org/2022-led-lamp-comparison-charts.

Manufacturer	Model name	Wattage	Lumens	Beam spread (in degrees)	Kelvin	Operating range	Color rendering index	Ingress protection
Brilliance LED	MICRO G4	1.2	95, 100	360	2700, 3000	8-14 VAC/DC	85	IP65
Brilliance LED	MICRO T5	1.2	100	360	2700	8-14 VAC/DC	85	IP65
Brilliance LED	G4 Ecostar	2	150	360	2700, 3000	8-14 VAC/DC	95	IP65
Brilliance LED	G4 Ecostar	3	240, 245	360	2700, 3000	8-14 VAC/DC	95	IP65
Brilliance LED	SCB Ecostar	3	240, 245	360	2700, 3000	8-14 VAC/DC	95	IP65
Brilliance LED	T5 Ecostar	3	240, 245	360	2700, 3000	8-14 VAC/DC	95	IP65
Brilliance LED	Beacon G4	2	230, 244, 250	360	2700, 3000, 5700	8-25 VAC/DC	84	IP65
Brilliance LED	Beacon T5	2	233, 245	360	2700, 3000	8-25 VAC/DC	84	IP65
Brilliance LED	Beacon SCB	2	230, 245	360	2700, 3000	8-25 VAC/DC	84	IP65
Brilliance LED	Beacon DCB	2	200	360	2700	8-25 VAC/DC	84	IP65
Brilliance LED	Beacon S8	2	200, 245	360	2700, 3000	8-25 VAC/DC	84	IP65
Brilliance LED	Beacon Plus G4	3	300, 340	360	2700, 3000	8-25 VAC/DC	90+	IP65
Brilliance LED	Rectangle G4 Wafer	2	120	180	2700	8-24 VAC/DC	85	IP60
Brilliance LED	Round G4 Wafer	2	120	180	2700	8-24 VAC/DC	85	IP60
Brilliance LED	MR8	1.5	90, 139	30, 60	2700, 3000	8-25 VAC/DC	85	IP61
Brilliance LED	MR11	2	120, 166	15, 30, 60, 120	2700, 3000	8-25 VAC/DC	85	IP61
Brilliance LED	AR11	2	120, 138	30, 60	2700, 3000	8-25 VAC/DC	85	IP61
Brilliance LED	MR16	4	325, 350, 400	15, 30, 60, 120	2700, 3000, 5700	8-25 VAC/DC	85	IP61
Brilliance LED	MR16	5	380, 400, 450	15, 30, 60, 120	2700, 3000, 5700	8-25 VAC/DC	85	IP61
Brilliance LED	MR16	7	690, 715, 750	15, 30, 60, 120	2700, 3000, 5700	8-25 VAC/DC	85	IP61
Brilliance LED	MR16 Ecostar	4	350, 420	15, 30, 60, 120	2700, 3000	8-25 VAC/DC	85	IP61
Brilliance LED	PAR36	4	435	30, 60	2700	8-25 VAC/DC	85	IP68
Brilliance LED	PAR36	7	675, 700	30, 60	2700, 3000	8-25 VAC/DC	85	IP68
Brilliance LED	PAR36	11	900, 950	30, 60	2700, 3000	8-25 VAC/DC	85	IP68
Brilliance LED	PAR36	15	1430, 1530, 1650	15, 30, 60, 120	2700, 3000, 5700	8-25 VAC/DC	85	IP68
Encore Landscape Lighting	MR8	3	170, 180	60	2700, 3000	8-25 VAC/DC	85	IP65
Encore Landscape Lighting	MR11	3	180, 190	40	2700, 3000	8-25 VAC/DC	85	IP65
Encore Landscape Lighting	MR16	4	390, 420, 470	15, 30, 45, 60, 120	2700, 3000, 5000	8-25 VAC/DC	85	IP65
Encore Landscape Lighting	MR16	6	650, 680, 720	15, 30, 45, 60, 120	2700, 3000, 5000	8-25 VAC/DC	85	IP65
Encore Landscape Lighting	MR16	9	720, 740	30, 45, 60	2700, 3000	8-25 VAC/DC	85	IP65
Encore Landscape Lighting	PAR36	6	640, 660	40, 60, 120	2700, 3000	8-25 VAC/DC	85	IP67
Encore Landscape Lighting	PAR36	10	930, 950	40, 60, 120	2700, 3000	8-25 VAC/DC	85	IP67
Encore Landscape Lighting	PAR36	13	1050, 1150	40, 60, 120	2700, 3000	8-25 VAC/DC	85	IP67
Encore Landscape Lighting	PAR36	17	1350, 1450	40, 60, 120	2700, 3000	8-25 VAC/DC	85	IP67
Encore Landscape Lighting	G4	1	90	360	3000	8-25 VAC/DC	85	IP65
Encore Landscape Lighting	G4	2	160, 180	360	2700, 3000	8-25 VAC/DC	85	IP65
Encore Landscape Lighting	G4	3	220, 240	360	2700, 3000	8-25 VAC/DC	85	IP65
Encore Landscape Lighting	G4	4	340, 360	360	2700, 3000	8-25 VAC/DC	85	IP65
EmeryAllen	BA15S	2	200	360	2700, 3000	12 VAC/DC	90+	Damp location listed
EmeryAllen	BA15S	4	400	360	2700, 3000	12 VAC/DC	90+	Damp location listed
EmeryAllen	B11	3.5	350	360	2700	12 VAC/DC	90	Damp location listed
EmeryAllen	G4	1	100	360	2700, 3000	12 VAC/DC	90+	Damp location listed
EmeryAllen	G4	1.5	150	360	2700, 3000	12 VAC/DC	90+	Damp location listed
EmeryAllen	G4	2	200	360	2700, 3000	12 VAC/DC	90+	Damp location listed
EmeryAllen	G4	2.5	250	360	2700, 3000	12 VAC/DC	90+	Damp location listed
EmeryAllen	G4	3	300	360	2700, 3000	12 VAC/DC	90+	Damp location listed
EmeryAllen	G4	4	400	360	2700, 3000	12 VAC/DC	90+	Damp location listed
EmeryAllen	G4	5	500	360	2700, 3000	12 VAC/DC	90+	Damp location listed
EmeryAllen	G4 Wafer	2	200	180	2700, 3000	12 VAC/DC	90+	Damp location listed
EmeryAllen	G4 Wafer	3	300	180	2700, 3000	12 VAC/DC	90+	Damp location listed
EmeryAllen	G4 Directional COB	3	300	180	2700, 3000	12 VAC/DC	90+	Damp location listed
EmeryAllen	G4 COB	2.5	250	360	2700, 3000	12 VAC/DC	90+	Damp location listed
EmeryAllen	G4 COB	4	400	360	2700, 3000, 4000	12 VAC/DC	90+	Damp location listed
EmeryAllen	G4 COB	5	500	360	2700, 3000	12 VAC/DC	90+	Damp location listed
EmeryAllen	MR11	1.5	135	24, 36, 60, 120	2700, 3000	12 VAC	90+	Damp location listed
EmeryAllen	MR11	3	270	24, 36, 60, 120	2700, 3000	12 VAC	90+	Damp location listed
EmeryAllen	MR16	1	75-125	24, 36, 60, 120	2700, 3000	12 VAC	92	Damp location listed
EmeryAllen	MR16	3	275-300	15, 24, 36, 60, 120	2700, 3000, 4000	12 VAC	92	Damp location listed

Manufacturer	Model name	Wattage	Lumens	Beam spread (in degrees)	Kelvin	Operating range	Color rendering index	Ingress protection
EmeryAllen	MR16	5	300-450	15, 24, 36, 60, 120	2700, 3000, 4000, 5700	12 VAC	92	Damp location listed
EmeryAllen	MR16	7	450-550	15, 24, 36, 60, 120	2700, 3000, 4000, 5700	12 VAC	92	Damp location listed
EmeryAllen	PAR36	5.5	500	15, 24, 36, 60, 120	2700, 3000	12 VAC	90	Damp location listed
EmeryAllen	PAR36	8.5	725	15, 24, 36, 60, 120	2700, 3000	12 VAC	90	Damp location listed
EmeryAllen	PAR36	14	1100	15, 24, 36, 60, 120	2700, 3000	12 VAC	90	Damp location listed
EmeryAllen	S8	4	400	360	2700, 3000	12 VAC/DC	80	Damp location listed
EmeryAllen	S14	2	110-150	360	2200, 2700	12 VAC/DC	94	Damp location listed
EmeryAllen	T5	1.5	150	360	2700, 3000	12 VAC/DC	90+	Damp location listed
EmeryAllen	T5	2.5	250	360	2700, 3000	12 VAC/DC	90+	Damp location listed
EmeryAllen	LMW	1.5	150	180	2700, 3000	12 VAC/DC	90+	Damp location listed
EmeryAllen	LMW	2.5	250	180	2700, 3000	12 VAC/DC	90+	Damp location listed
AMP Lighting	MR16	2	150	38, 60, 110	2700, 3000	6-18 VAC	>80	IP20
AMP Lighting	MR16	3	300	15, 38, 60, 110	2200, 2700, 3000, 4000	6-18 VAC	>80	IP20
AMP Lighting	MR16	5	400	15, 38, 60, 110	2200, 2700, 3000, 4000	6-18 VAC	>80	IP20
AMP Lighting	MR16	7	500	15, 38, 60, 110	2700, 3000	6-18 VAC	>80	IP20
AMP Lighting	MR11	2	200	38, 60	2700, 3000	6-18 VAC	>80	IP20
AMP Lighting	MR11	4	350	38, 60	2700, 3000	6-18 VAC	>80	IP20
AMP Lighting	MR8	2	175	38	2700	6-18 VAC	>83	IP20
AMP Lighting	G4	1.5	150	360	2700, 3000	8-16 VAC	>80	IP20
AMP Lighting	G4	2	200	360	2700, 3000	8-16 VAC	>80	IP20
AMP Lighting	G4	3	300	360	2700, 3000	8-16 VAC	>80	IP20
AMP Lighting	G4	4	425	360	2700, 3000	8-16 VAC	>80	IP20
AMP Lighting	PAR36	5	375	35, 60	2700, 3000	6-18 VAC	>80	IP67
AMP Lighting	PAR36	6	650	35, 60	2700, 3000	6-18 VAC	>80	IP67
AMP Lighting	PAR36	9	900	35, 60	2700, 3000	6-18 VAC	>80	IP67
AMP Lighting	PAR36	12	1100	35, 60	2700, 3000	6-18 VAC	>80	IP67
AMP Lighting	PAR36	15	1350	35, 60	2700, 3000	6-18 VAC	>80	IP67
AMP Lighting	SCB	2	200	360	2200, 2700, 3000	6-18 VAC	>82	IP20
AMP Lighting	SCB	3	300	360	2200, 2700, 3000	6-18 VAC	>82	IP20
AMP Lighting	SCB	4	350	360	2200, 2700, 3000	6-18 VAC	>82	IP20
AMP Lighting	SCB	5	425	360	2200	6-18 VAC	>82	IP20
AMP Lighting	R7S	7	730	110	2700	6-18 VAC	>82	IP20
AMP Lighting	R7S	10	950	110	2700	6-18 VAC	>82	IP20
AMP Lighting	PAR30	12	1200	36	4000	120 VAC	>80	IP40
AMP Lighting	PAR38	18	1400	38	4000	120 VAC	>80	IP40
Unique Lighting Systems	MR11	2.2	110	30	2700	10-15 VAC	82	IP20
Unique Lighting Systems	MR16	3	200, 210, 230, 250	20, 40, 60	2700, 3000, 5000	10-15 VAC	82	IP20
Unique Lighting Systems	MR16	4	300, 310, 340	20, 40, 60	2700, 3000, 5000	10-15 VAC	82	IP20
Unique Lighting Systems	MR16	5	380, 390, 430	20, 40, 60	2700, 3000, 5000	10-15 VAC	82	IP20
Unique Lighting Systems	MR16	8	590, 600, 660	20, 40, 60	2700, 3000, 5000	10-15 VAC	82	IP20
Unique Lighting Systems	PAR36	5	300, 320, 340	32	2700, 3000, 5000	10-15 VAC	82	IP67
Unique Lighting Systems	PAR36	7	450, 480, 510	32	2700, 3000, 5000	10-15 VAC	82	IP67
Unique Lighting Systems	PAR36	13	800, 840, 880	32	2700, 3000, 5000	10-15 VAC	82	IP67
Unique Lighting Systems	T-3-G4	1	100	360	2700, 3000	10-18 VAC	82	IP20
Unique Lighting Systems	T-3-G4	2	130, 140, 190, 200	360	2700, 3000	10-18 VAC	82	IP20
Nite Time Décor	Bipin	2	320-360	327	2700, 3000	9-16 VAC/DC	80	IP65
Nite Time Décor	Bipin	3	290-310	327	2700, 3000, 5000	9-16 VAC/DC	80	N/A
Nite Time Décor	Bipin	4	390-410	327	2700, 3000, 5000	9-16 VAC/DC	80	N/A
Nite Time Décor	MR11	2.5	150-180	24, 38, 60, 120	2700, 3000, 5000	9-16 VAC/DC	85	IP61
Nite Time Décor	MR16	4	330-380	15, 30, 60, 120	2700, 3000, 5000	9-26 VAC/DC	85	IP61
Nite Time Décor	MR16	5	480-530	15, 30, 60, 120	2700, 3000, 5000	9-26 VAC/DC	85	IP61
Nite Time Décor	MR16	7	520-710	15, 30, 60, 120	2700, 3000, 5000	9-26 VAC/DC	85	IP61
Nite Time Décor	PAR36	6	420-1050	15, 38, 60, 120	2700, 3000, 5000	9-26 VAC/DC	85	IP67
Nite Time Décor	PAR36	10	420-1050	15, 38, 60, 120	2700, 3000, 5000	9-26 VAC/DC	85	IP67
Nite Time Décor	PAR36	13	420-1050	15, 38, 60, 120	2700, 3000, 5000	9-26 VAC/DC	85	IP67
FX Luminaire	G4LED10W	1	76	N/A	2700	12 VAC	83	N/A
FX Luminaire	G4LED20W	1.6	123	N/A	2700	12 VAC	82	N/A
FX Luminaire	G4LED35W	2.4	170	N/A	2700	12 VAC	84	N/A
FX Luminaire	MR16LED20WFL	4	260	35	2700	10-15 VAC	80+	IP66
FX Luminaire	MR16LED20WWF	4	250	60	2700	10-15 VAC	80+	IP66
FX Luminaire	MR16LED35WFL	5	335	35	2700	10-15 VAC	80+	IP66
FX Luminaire	MR16LED35WWF	5	340	60	2700	10-15 VAC	80+	IP66
FX Luminaire	MR16LED50WFL	6	447	35	2700	10-15 VAC	80+	IP66
FX Luminaire	MR16ECO20WFL	4	320	35	2700	10-15 VAC	87	N/A
FX Luminaire	MR16ECO20WWF	6	309	60	2700	10-15 VAC	87	N/A
FX Luminaire	MR16ECO50WFL	6	465	35	2700	10-15 VAC	86	N/A
FX Luminaire	MR16ECO50WWF	6	430	60	2700	10-15 VAC	86	N/A
FX Luminaire	PAR36ECO35WFL	6	690	35	2700	10-15 VAC	84	IP67
FX Luminaire	PAR36ECO35WWF	6	670	60	3000	10-15 VAC	84	IP67
FX Luminaire	PAR36ECO50WFL	10	860	35	2700	10-15 VAC	83	IP67
FX Luminaire	PAR36ECO50WWF	10	860	60	3000	10-15 VAC	83	IP67

Irrigation & Lighting

www.irrigationandlighting.org

Phone: 703.536.7080 | Fax: 703.536.7019

8280 Willow Oaks Corporate Drive, Suite 630, Fairfax, VA 22031