



LED Lighting System Quick Technical Reference Card

CONSTANT METHOD for Sizing Wire

LENGTH X WATTS X 2 / CABLE CONSTANT = VOLTAGE DROP

Wire Size	Cable Constant	Example calculation using 200' of 12/2 wire with 60 total watts:
18/2	1380	200' x 60 watts = 12,000 x 2 divided by 7500 (cable constant) = 3.2 total volts lost.
16/2	2200	
14/2	3500	Now subtract that number from the voltage tap being used on the transformer to determine the voltage at the furthest fixture (IE: 15v tap - 3.2 = 11.8v at the last fixture).
12/2	7500	
10/2	11920	
8/2	18960	

Quick Voltage Drop Guide (Based on one run using 12/2 wire)

Total Run Footage	Max Watts	Voltage Drop	Recommended Voltage Tap
400 feet	30 watts	3.2v	15
300 feet	40 watts	3.2v	15
200 feet	60 watts	3.2v	15
100 feet	120 watts	3.2v	15

NOTE: Double check your voltage loss by testing the furthest fixture while under load.



LANDSCAPE®



SOURCE
LIGHTING CO.

www.cast-lighting.com | 973-423-2303

VA's	Add up the total fixture Volt Amps to size the transformer (Don't exceed 80% of the transformer's capacity).
Tap	Any one voltage tap on the transformer can handle 100% of the transformer's capacity.
Watts or VA's	Think "WATTS" to size the wire, and "VOLT AMPS" to size the transformer.
Wire Sizing	Use the "CONSTANT METHOD" to determine voltage drop in the wire.
Subtract	Once the voltage drop is determined, subtract that number from the starting tap. The difference is the voltage at the last fixture.

NOTE: Recommended LED Operating Voltage 12.0 V to 16.0 V AC.

WIRE RATINGS

Wire Size	Watt Capacity (80%)	Amp Rating
18/2	58	5
16/2	96	8
14/2	144	12
12/2	192	16
10/2	288	24

Most LED fixtures and lamps operate between 10-24 volts. However, some can operate between 12-15 volts. Therefore, know your fixture VA's when determining the voltage loss to be sure your fixtures are operating efficiently.

Troubleshooting Guide: www.cast-lighting.com/landscape-troubleshooting
System Calculator: www.cast-lighting.com/landscape-system-calculator

SOURCE Lighting® LED MR-16 Lamps

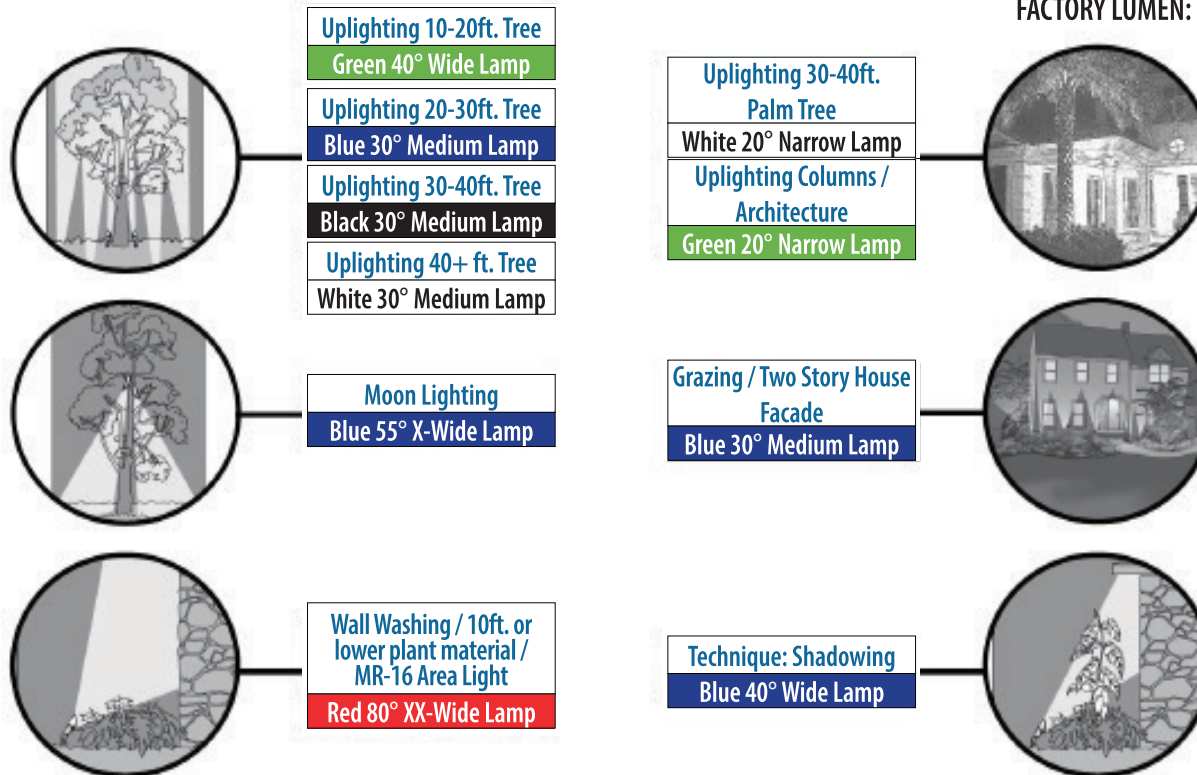
Color-Coded & Engraved Beam Angle for Easy Identification



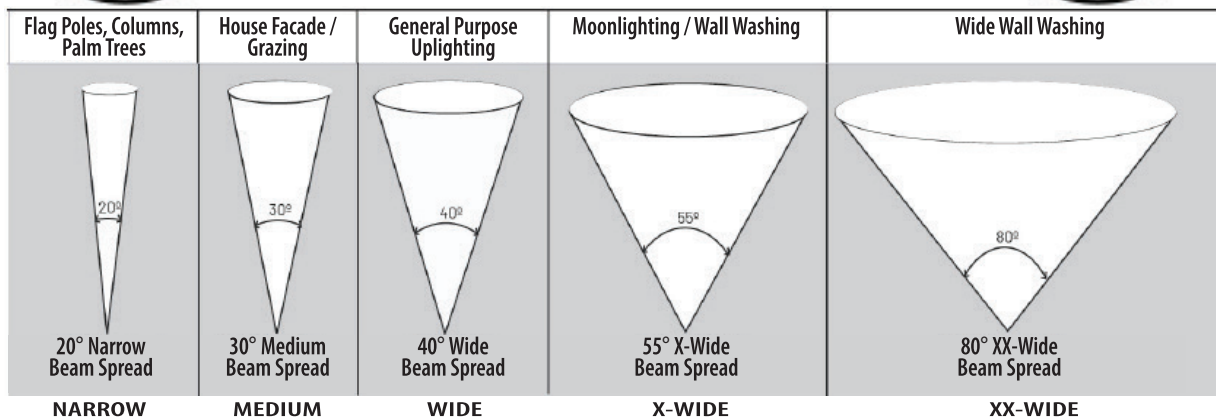
EASY-TO-IDENTIFY BEAM ANGLE!

HALOGEN EQUIV:	75W	50W	35W	20W	10W
FACTORY LUMEN:	720	540	390	300	240

Most Popular Applications



- Lamp Color Indicates Wattage of LED
- 20° to 80° Beam Spreads
- 2700K & 3000K Color Temperatures Available
- Beam Angle Engraved on Face of Optic for Accurate Replacement
- 10-75W Halogen Equivalent
- 1-6W Drop-In LED



CAST
LIGHTING
LLC

1120 Goffle Rd.
Hawthorne, NJ 07506
Ph: 973-423-2303
E: info@cast-lighting.com

www.cast-lighting.com