

# Q-LED T12 CROSSFADE Lamps

1' | 2' | 4' | 6' | 8'

2000K-6000K

120VAC | 240VAC

## Product Use & Safety Instruction Manual

Version 0.1

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## Dimensions

### Length

Q15W2060XG: 1' / 30.5cm pin tip to pin tip

Q25W2060XG: 2' / 61cm pin tip to pin tip

Q50W2060XG: 4' / 122cm pin tip to pin tip

Q75W2060XG: 6' / 183cm pin tip to pin tip

Q100W2060XG: 8' / 244cm pin tip to pin tip

### Diameter

1.5" / 3.81 cm

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## Safety Information

### 1. Risk Levels & Alert Symbols

- a. **⚠ DANGER!** indicates an imminent hazardous situation which, if not avoided, will result in death or serious injury.
- b. **⚠ WARNING!** indicates a potentially hazardous situation which, if not avoided, may result in death or serious injury.
- c. **⚠ CAUTION!** indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.
- d. **NOTICE** explains practices not related to physical injury. No safety alert symbol appears with this signal word.

### 2. Vital Precautions

- a. **⚠ CAUTION!** Lamps must receive their rated power!
  - i. 120VAC rated lamps must receive 110V-120V of AC power
  - ii. 240VAC rated lamps must receive 220V-240V of AC power
- b. **NOTICE** Plugging 120VAC into 240VAC power will irreparably damage the lamp driver electronics!

### 3. Warnings

- a. **⚠ CAUTION!** The lamp does not have IP rating and must be kept dry at all times.
- b. **NOTICE** Do not use VARIAC type dimmers.

### 4. General Precautions

- a. Make sure P1G power connector is firmly secure flush to the lamp end before providing AC power.

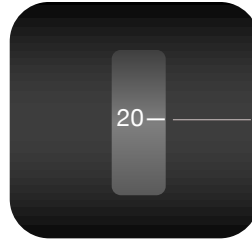
## Introduction

1. Product description
  - a. The Q15W2060XG, Q25W2060XG, Q50W2060XG, Q75W2060XG, and Q100W2060XG Light Emitting Diode (LED) lamps are T12-sized LED bulbs containing a two strips of LEDs emitting either 2000K or 6000K directly phosphor converted 450nm LEDs.
  - b. The LEDs are diffused through a 180° diffuser to provide an even illumination surface at high enough frequencies to prevent flicker artifacts in photographic applications.
  - c. The LED diodes are “mixed” by changing the ratio of diode channel dim levels set by an input CCT analog potentiometer and maintains maximum device wattage per CCT setting.
  - d. The LEDs are dimmed through the use of external TRIAC AC dimmers.
2. Packing List
  - a. 1x T12-sized Lamp per product length
  - b. 1x P1G grounded bi-pin power connector

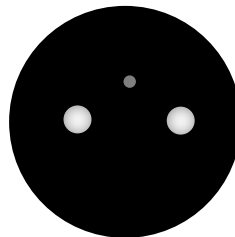
## Overview

### 1. Device Diagram

- a. The device has one control dial end and one G13 compatible bi-pin end with a hole for the P1G grounding pin.
  - i. The control dial end (viewed from device front) contains an analog potentiometer that dials in a 2000K & 6000K diode mix to achieve an indicated color temperature of white light.



- ii. The G13 compatible bi-pin end (viewed from device end) receives the P1G AC power connector. The P1G grounding pin inserts into the ground pin port, while the power pins insert into the P1G receiving holes.



### 2. P1G AC Power Connector

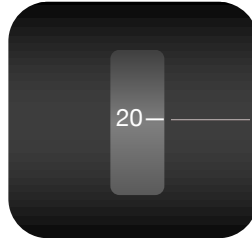
- a. The P1G AC power connector has:
  - i. Male end: 1x polarized 3-prong AC connector
  - ii. Female end: 1x QTP3 head bi-pin receiver with spring tension buttons and grounding pin

## Physical Installation & ⚠ Power Instructions

1. Fixture installation configurations and instructions
  - a. The crossfade lamps will fit any typical T12 clips as well as Quasar Science T12-sized Q-Block mounting blocks (QBK).
  - b. Quasar Plates or any other device containing T12 clips or T12 Q-blocks can mount crossfade lamps. 4' or larger lamps may need zip ties to additionally secure them into the blocks.
  - c. To mount T12 lamps in these clips or Q-Blocks, simply insert the lamp into the clips until it is fully secure.
2. ⚠ Power requirements
  - a. To install the P1G AC connector:
    - i. Hold the power end with one hand.
    - ii. Pinch and hold the QTP3 spring tension buttons in with the other hand.
    - iii. Insert the grounding pin into the ground pin receiving hole and the G13 pins into the QTP3 holes. Use the available thumb to push the QTP2 head flush to the power end cap.
    - iv. Release the QTP2 spring tension buttons.
  - b. ⚠ **CAUTION!** 120VAC rated lamps must receive 110V-120V of AC power
  - c. ⚠ **CAUTION!** 240VAC rated lamps must receive 220V-240V of AC power
  - d. DC power sources will not power the lamp.
  - e. **NOTICE** Insufficiently powered AC dimming circuits may cause the lamp to flicker. To remedy this issue, plug in parallel electrical configuration a very low wattage incandescent light bulb to stabilize the TRIAC dimming circuit.

## Basic Features

1. CCT control
  - a. Turn the analog CCT dial to the desired color temperature:



- b. Color temperatures are shown divided by 100 (2000K/100 = 20, 3000K/100 = 30, etc) for legibility and precision marking on the dial
2. Dimming
  - a. The Q-LED crossfade lamps are capable of dimming down while maintaining color temperature.
  - b. The Q-LED crossfade lamps are dimmed by an external TRIAC AC source.
  - c. To Dim Q-LED crossfade lamps, plug the installed P1G into:
    - i. AC power wired up to a wall-dimmer switch
    - ii. AC power wired up to a TRIAC dimmer source
    - iii. AC power connected to a stand-a-lone TRIAC dimmer plugged into AC-power
3. Dimming Equipment recommendations
  - f. **NOTICE** The crossfade lamps must be dimmed with TRIAC AC dimming circuits. VARIAC type dimmers will not work.
  - g. Reverse-phase (trailing edge) TRIAC AC dimming circuits will enable lower dim levels with less potential strobing issues.
  - h. CFL/LED TRIAC AC dimming circuits must have a circuit that enables stable low voltage operation.
  - i. The following dimmers work well with crossfade products:
    - i. Lutron CF line of household dimmers
    - ii. ETC Sensor
    - iii. RatPac dimmer products





## Technical Specifications

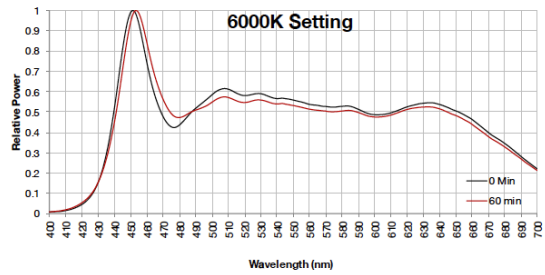
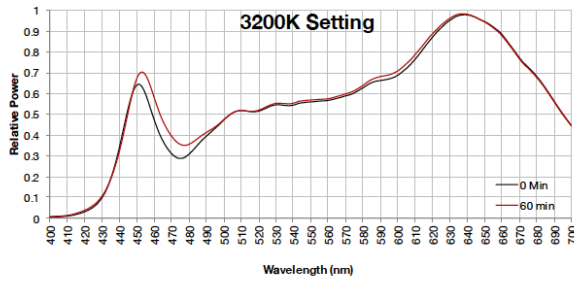
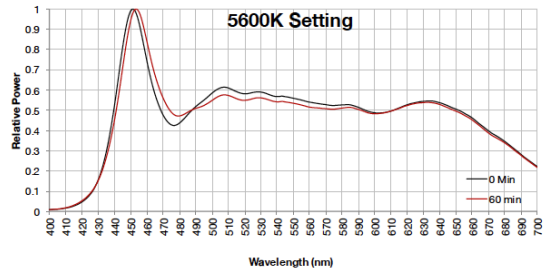
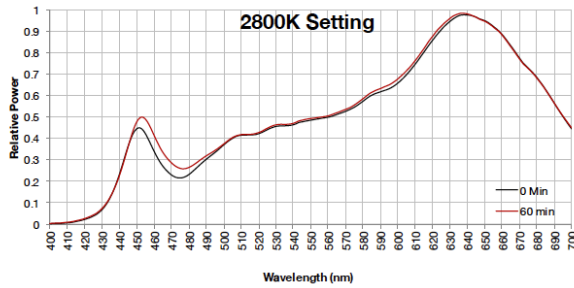
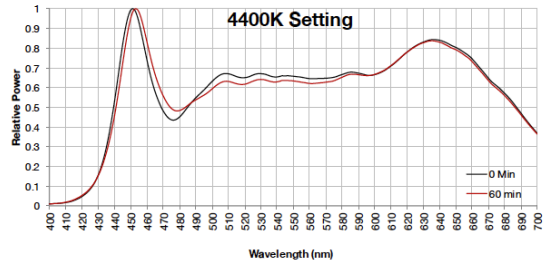
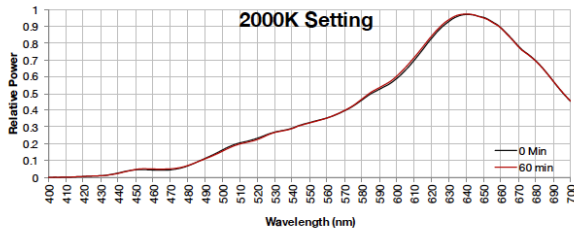
1. Physical Length, Width Height
  - a. Q15W2060XG, Q25W2060XG, Q50W2060XG, Q75W2060XG, and Q100W2060XG:  
Width & height = 1.5" 3.81 cm
  - b. Q15W2060XG: 1' / 30.5cm pin tip to pin tip
  - c. Q25W2060XG: 2' / 61cm pin tip to pin tip
  - d. Q50W2060XG: 4' / 122cm pin tip to pin tip
  - e. Q75W2060XG: 6' / 183cm pin tip to pin tip
  - f. Q100W2060XG: 8' / 244cm pin tip to pin tip
2. Diffusor Length, Width Height
  - a. Width = 1.5" 3.81 cm
  - b. Height = 0.75" 1.91 cm
  - c. Q15W2060XG length: 9 3/16" / 23.3cm
  - d. Q25W2060XG length: 20 5/8" / 52.4cm
  - e. Q50W2060XG length: 44 5/8" / 113cm
  - f. Q75W2060XG length: 68 5/16" / 174cm
  - g. Q100W2060XG length: 92' / 234cm
3. Illuminant technical data
  - a. Diode set 1: 2000K,  $duv = 0.0055$  (2/3 to 3/4 Minus Green correction required for neutral CCT)
  - b. Intermediary CCT: 3000K,  $duv = -0.007$  (1/4 Plus Green correction required for neutral CCT)
  - c. Diode set 2: 6000K,  $duv = 0.003$

## 4. Photometric data

Model	Distance (ft)	2000K (FC / Lux)	2800K (FC / Lux)	3000K (FC / Lux)	3200K (FC / Lux)	4400K (FC / Lux)	5600K (FC / Lux)	6000K (FC / Lux)
Q15XG	2 / 0.61	39 / 420	50 / 542	53 / 567	55 / 588	72 / 777	69 / 743	69 / 743
Q15XG	3 / 0.91	17 / 187	22 / 241	23 / 252	24 / 262	32 / 346	31 / 331	31 / 331
Q15XG	4 / 1.22	9.8 / 105	13 / 135	13 / 142	14 / 147	18 / 194	17 / 186	17 / 186
Q15XG	6 / 1.83	4.3 / 47	5.6 / 60	5.9 / 63	6.1 / 65	8 / 86	7.7 / 83	7.7 / 83
Q15XG	8 / 2.44	2.4 / 26	3.1 / 34	3.3 / 35	3.4 / 37	4.5 / 49	4.3 / 46	4.3 / 46
Q15XG	10 / 3.05	1.7 / 19	2.2 / 24	2.3 / 25	2.4 / 26	3.2 / 34	3 / 33	3 / 33
Q15XG	18 / 5.49	0.51 / 5.5	0.66 / 7.1	0.69 / 7.4	0.71 / 7.7	0.94 / 10	0.9 / 9.7	0.9 / 9.7
Q15XG	25 / 7.62	0.29 / 3.1	0.37 / 4	0.39 / 4.2	0.41 / 4.4	0.54 / 5.8	0.51 / 5.5	0.51 / 5.5
Q25XG	2 / 0.61	85 / 919	110 / 1185	115 / 1240	119 / 1286	158 / 1699	151 / 1626	151 / 1626
Q25XG	3 / 0.91	40 / 432	52 / 557	54 / 583	56 / 605	74 / 799	71 / 765	71 / 765
Q25XG	4 / 1.22	22 / 236	28 / 305	30 / 319	31 / 331	41 / 437	39 / 418	39 / 418
Q25XG	6 / 1.83	9.8 / 105	13 / 136	13 / 142	14 / 147	18 / 194	17 / 186	17 / 186
Q25XG	8 / 2.44	5.6 / 60	7.2 / 78	7.6 / 81	7.9 / 85	10 / 112	9.9 / 107	9.9 / 107
Q25XG	10 / 3.05	3.6 / 39	4.6 / 50	4.9 / 52	5 / 54	6.6 / 72	6.4 / 68	6.4 / 68
Q25XG	18 / 5.49	1.2 / 12	1.5 / 16	1.6 / 17	1.6 / 17	2.1 / 23	2 / 22	2 / 22
Q25XG	25 / 7.62	0.6 / 6.5	0.77 / 8.3	0.81 / 8.7	0.84 / 9	1.1 / 12	1.1 / 11	1.1 / 11
Q50XG	2 / 0.61	118 / 1273	153 / 1642	160 / 1718	166 / 1782	219 / 2355	209 / 2253	209 / 2253
Q50XG	3 / 0.91	60 / 642	77 / 829	81 / 867	84 / 899	110 / 1188	106 / 1137	106 / 1137
Q50XG	4 / 1.22	37 / 394	47 / 508	49 / 531	51 / 551	68 / 728	65 / 697	65 / 697
Q50XG	6 / 1.83	16 / 175	21 / 226	22 / 237	23 / 245	30 / 324	29 / 310	29 / 310
Q50XG	8 / 2.44	9.8 / 105	13 / 135	13 / 142	14 / 147	18 / 194	17 / 186	17 / 186
Q50XG	10 / 3.05	6.3 / 67	8.1 / 87	8.4 / 91	8.8 / 94	12 / 124	11 / 119	11 / 119
Q50XG	18 / 5.49	1.9 / 21	2.5 / 27	2.6 / 28	2.7 / 29	3.6 / 38	3.4 / 37	3.4 / 37
Q50XG	25 / 7.62	1.1 / 12	1.4 / 15	1.5 / 16	1.5 / 17	2 / 22	1.9 / 21	1.9 / 21
Q75XG	2 / 0.61	134 / 1444	173 / 1862	181 / 1949	188 / 2021	248 / 2671	237 / 2555	237 / 2555
Q75XG	3 / 0.91	79 / 853	102 / 1100	107 / 1151	111 / 1194	147 / 1577	140 / 1509	140 / 1509
Q75XG	4 / 1.22	51 / 551	66 / 711	69 / 744	72 / 772	95 / 1020	91 / 976	91 / 976
Q75XG	6 / 1.83	27 / 292	35 / 377	37 / 394	38 / 409	50 / 540	48 / 517	48 / 517
Q75XG	8 / 2.44	16 / 171	20 / 220	21 / 230	22 / 239	29 / 316	28 / 302	28 / 302
Q75XG	10 / 3.05	11 / 118	14 / 152	15 / 159	15 / 165	20 / 218	19 / 208	19 / 208
Q75XG	18 / 5.49	3.4 / 36	4.3 / 47	4.6 / 49	4.7 / 51	6.2 / 67	6 / 64	6 / 64
Q75XG	25 / 7.62	1.7 / 18	2.2 / 24	2.3 / 25	2.4 / 26	3.1 / 34	3 / 32	3 / 32
Q100XG	2 / 0.61	134 / 1444	173 / 1862	181 / 1949	188 / 2021	248 / 2671	237 / 2555	237 / 2555
Q100XG	3 / 0.91	87 / 934	112 / 1205	117 / 1261	122 / 1308	161 / 1729	154 / 1654	154 / 1654
Q100XG	4 / 1.22	61 / 656	79 / 846	82 / 886	85 / 919	113 / 1214	108 / 1161	108 / 1161
Q100XG	6 / 1.83	30 / 327	39 / 422	41 / 441	43 / 458	56 / 605	54 / 579	54 / 579
Q100XG	8 / 2.44	20 / 210	25 / 271	26 / 283	27 / 294	36 / 388	35 / 372	35 / 372
Q100XG	10 / 3.05	13 / 143	17 / 184	18 / 193	19 / 200	25 / 264	24 / 253	24 / 253
Q100XG	18 / 5.49	4.1 / 45	5.3 / 58	5.6 / 60	5.8 / 62	7.7 / 82	7.3 / 79	7.3 / 79
Q100XG	25 / 7.62	2.1 / 23	2.7 / 29	2.8 / 31	2.9 / 32	3.9 / 42	3.7 / 40	3.7 / 40

a. Spectral Data & Metrics

a. The following illuminant spectral fingerprint data shows the maximum amount of spectral change at steady state temperature vs cold strike temperature.





## Warranty Information

1 Year warranty from date of purchase.  
Customer must provide proof of purchase.

This warranty is transferable.

### QUASAR SCIENCE WILL PAY FOR:

The replacement parts, repair and/or labor costs to correct defects in materials and workmanship.

\*Service must be provided by Quasar Science or an Authorized Quasar Science Service Center\*

### QUASAR SCIENCE WILL NOT PAY FOR:

Damage resulting from accident, misuse or abuse. Acts of God. Any failure that occurs for any other reason than materials and workmanship. Any shipping or handling costs.

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