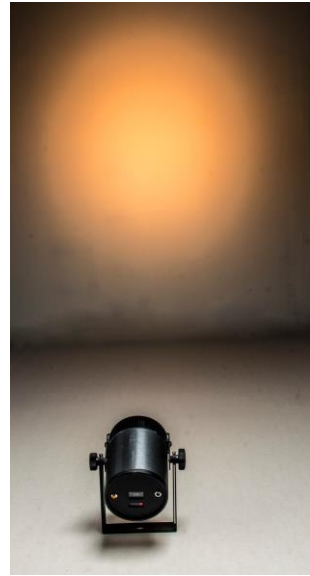


Beam Performance Examples



Using the Luxium color blending light engine a full range of uniform and calibrated colors can be produced with additive mixing of individual LED colors.

The contribution of each LED is managed by the light blending system to create the proper brightness level and hue.

Six separate LED color channels are combined as needed with a special algorithm to produce a wide gamut of color options and calibrated CCT's.

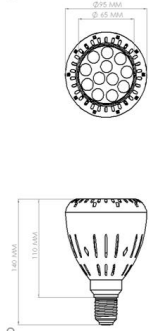
Precision optical lenses are used to focus the output of each LED into a uniform beam with a narrow spread and very low loss of light outside of the beam pattern - which reduces glare and improves efficacy.

Because each fixture is calibrated the color output will be the same from every fixture that is set to the same color point.

Lighting Fixture Layout Comparison

Separate Color LEDs vs Clustered LEDs

Separate Colors Layout



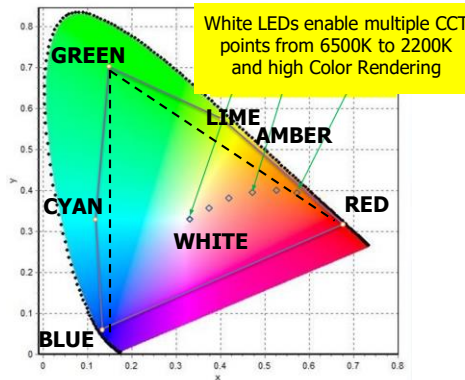
3" dia

**LUXIUM - 12 LED
RGBCLW System**

1800 Lumens* @ 24 Watts

Uses 6 different LED color chips and total of 12 LEDs (red, green, blue, cyan, lime, white)

Separated LEDs allow for calibrated white CCTs, better cooling for longer life, and higher lumens / watt

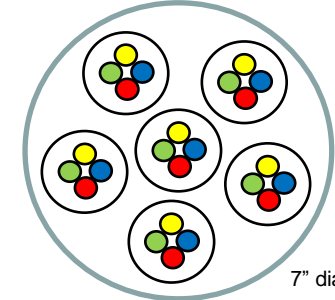


CYAN, LIME and AMBER LEDs EXPAND THE NORMAL COLOR RANGE

Benefits of multiplexing separate LEDs in additive-color lighting systems ***

- Wider color range
- Higher efficacy
- Smaller size
- Longer life
- Less flicker
- Better color rendering

Quad Clusters Layout



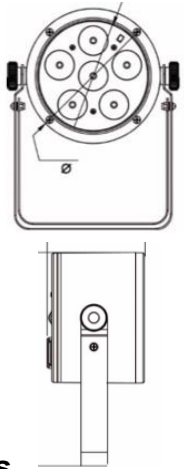
7" dia

**5 x 4in1 LED
RGBA System**

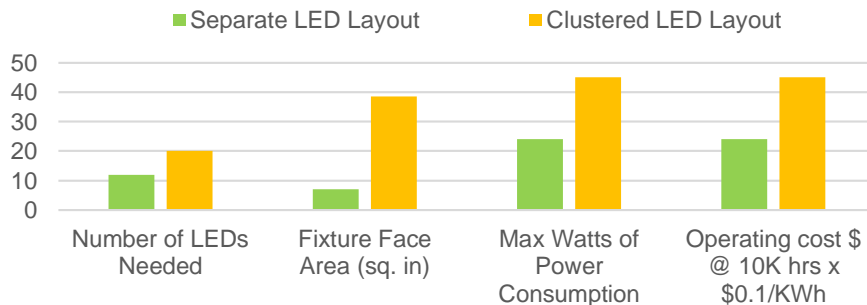
1800 Lumens* @ 45 Watts

Uses 4 different LED color chips in clusters and total of 20 LEDs (red, green, blue, amber)

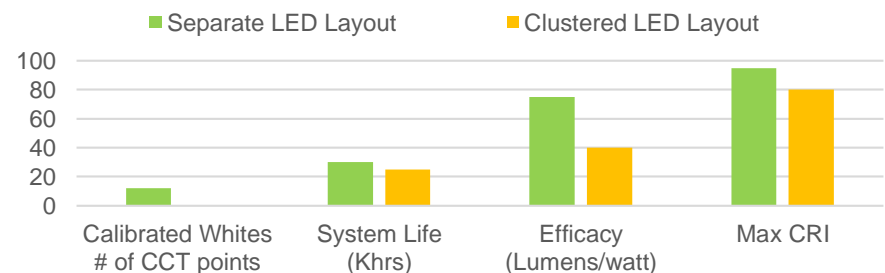
Tight clusters help reduce color fringing effects of shadow breakup**



When Less is Better



When More is Better



- Max White Lumens with all LEDs at full power
- ** Shadow breakup caused by objects placed in beam blending zone within a few meters of a mixed color LED light fixture
- *** This example shows the ZOBO lamp product with the Luxium light engine. All Luxium lighting products use this same engine design.