

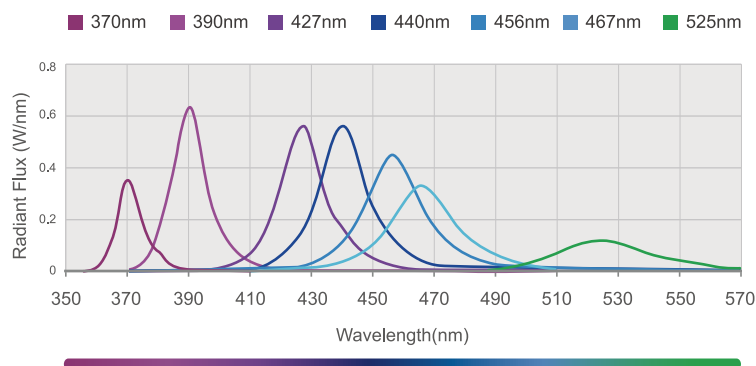
# Kessil LED PhotoReaction Lighting



## The New PR160L



Seven Precise Wavelengths to Optimize Reactions



### Finely Tuned Wavelengths

- ▶ Seven precise wavelengths to choose from - 370nm, 390nm, 427nm, 440nm, 456nm, 467nm, 525nm (and other wavelengths upon request)
- ▶ Optimize reactions to save time and cost

### Increased Intensity for Higher Efficiency

- ▶ Newly designed Linear Reflector creates a linear illumination area with more even light distribution
- ▶ Intense and penetrating light reduces reaction time and cost (50% stronger than our already intense Kessil H150 Blue)
- ▶ 4 levels of intensity control allows you to study the functional relationship between intensity and yield



### Flexibility & Simplicity

- ▶ Easily configure for different geometries (vials, test tubes, flasks, etc...)
- ▶ Add more PR160Ls to scale up your experiment and increase intensity
- ▶ Multiple mounting: PR160 Rig w/ Fan Kit, lab clamp, Kessil Gooseneck, etc.





## Upgraded PR160 Rig With Fan Kit

- ▶ Specifically designed mounting system for typical lab photocatalytic reactions
- ▶ Full adjustability and secure mounting provides consistency and reproducibility
- ▶ Comes with a powerful fan to blow air efficiently (proved to be more efficient than clamp desktop fan) to keep the reactions at room temperature as much as possible
- ▶ Comes with light-blocking shields for lab safety, which blocks all UV light and most blue light



Note 1: The kit does not come with the base. Stirring plate can be used

## Designed for Consistency and Reliability

- ▶ Easy to operate - plug & play
- ▶ Reliable results and repeatable reactions
- ▶ Consistency between every unit
  - Peak wavelength within  $\pm 1\text{nm}^*$
  - Optical output within 3%\*

\*Standard Deviation

## Specifications

Power Consumption	370nm (max 43W), 390nm (max 52W), 427nm & 440nm (max 45W), 456nm (max 50W), 467nm (max 44W), 525nm (max 44W)
Input Voltage	100-240 VAC
Operating Temperature	0 - 40°C / 32 - 104°F
Beam Angle	56°
Wavelength Options	370nm, 390nm, 427nm, 440nm, 456nm, 467nm, 525nm
Average Intensity	352mW/cm <sup>2</sup> (measured from 1 cm distance)
Dimensions	4.49" x 2.48" / 11.4cm x 6.3cm (H x D)

### References:

- V. Bacauanu, S. Cardinal, M. Yamauchi, M. Kondo, D. F. Fernández, R. Remy, D. W. C. MacMillan, Metallaphotoredox Difluoromethylation of Aryl Bromides *Angew. Chem. Int. Ed.* **2018**, 57, 12543, DOI: 10.1002/anie.201807629
- Perry, I. B.; Brewer, T. F.; Sarver, P. J.; Schultz, D. M.; DiRocco, D. A.; MacMillan, D. W. C. Direct arylation of strong aliphatic C–H bonds *Nature* **2018**, 560, 70–75, DOI: 10.1038/s41586-018-0366-x
- Zhang, X.; MacMillan, D. W. C. Alcohols as Latent Coupling Fragments for Metallaphotoredox Catalysis: sp<sup>3</sup>–sp<sup>2</sup> Cross-Coupling of Oxalates with Aryl Halides *J. Am. Chem. Soc.* **2016**, 138, 13862–13865., DOI: 10.1021/jacs.6b09533