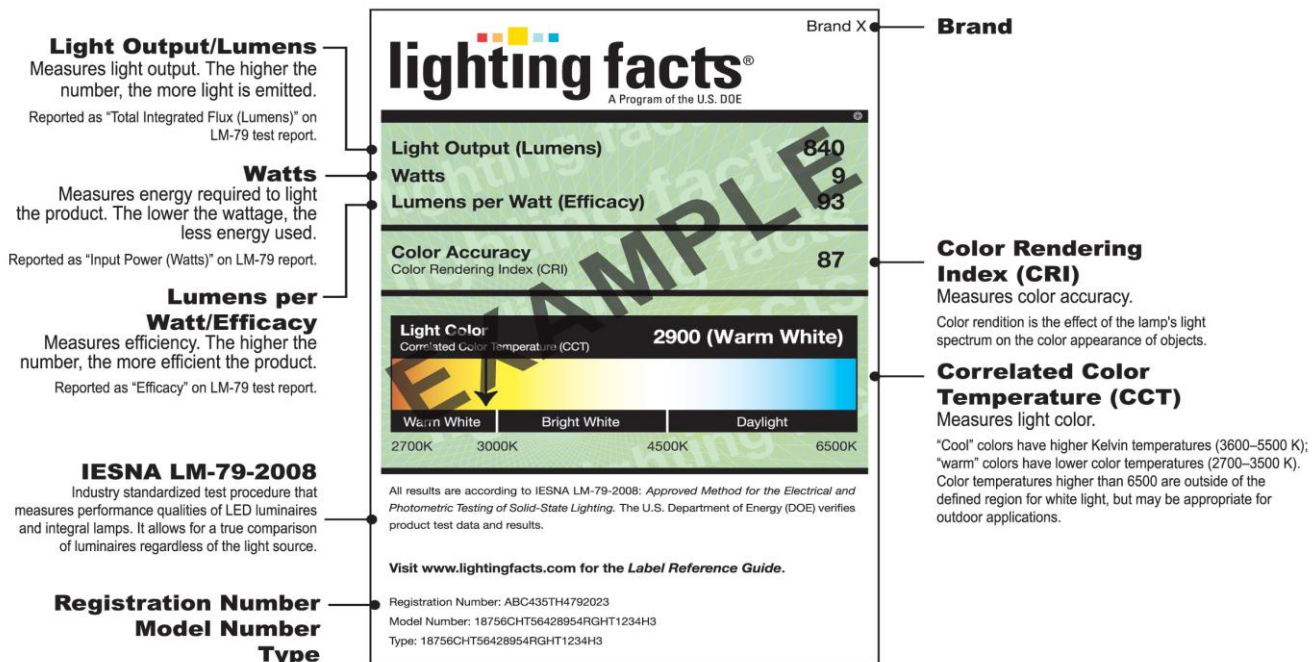


# Recommended Product Performance Scale (Commercial)

Version 1.0

This Recommended Product Performance Scale is a tool to help evaluate LED products to determine whether they are appropriate for a given application. The Scale compares performance values for the characteristics identified on the Lighting Facts Label to performance values for those same characteristics in standard commercial lighting technologies.



**Light Output/Lumens**  
Measures light output. The higher the number, the more light is emitted.  
Reported as "Total Integrated Flux (Lumens)" on LM-79 test report.

**Watts**  
Measures energy required to light the product. The lower the wattage, the less energy used.  
Reported as "Input Power (Watts)" on LM-79 report.

**Lumens per Watt/Efficacy**  
Measures efficiency. The higher the number, the more efficient the product.  
Reported as "Efficacy" on LM-79 test report.

**IESNA LM-79-2008**  
Industry standardized test procedure that measures performance qualities of LED luminaires and integral lamps. It allows for a true comparison of luminaires regardless of the light source.

**Registration Number  
Model Number  
Type**

**Brand**

**Color Rendering Index (CRI)**  
Measures color accuracy.  
Color rendition is the effect of the lamp's light spectrum on the color appearance of objects.

**Correlated Color Temperature (CCT)**  
Measures light color.  
"Cool" colors have higher Kelvin temperatures (3600–5500 K); "warm" colors have lower color temperatures (2700–3500 K). Color temperatures higher than 6500 are outside of the defined region for white light, but may be appropriate for outdoor applications.

Light Output (Lumens)		840
Watts		9
Lumens per Watt (Efficacy)		93
Color Accuracy Color Rendering Index (CRI)		87
Light Color Correlated Color Temperature (CCT)		2900 (Warm White)
Warm White	Bright White	Daylight
2700K	3000K	4500K 6500K

All results are according to IESNA LM-79-2008: *Approved Method for the Electrical and Photometric Testing of Solid-State Lighting*. The U.S. Department of Energy (DOE) verifies product test data and results.

Visit [www.lightingfacts.com](http://www.lightingfacts.com) for the *Label Reference Guide*.

Registration Number: ABC435TH4792023  
Model Number: 18756CHT56428954RGHT1234H3  
Type: 18756CHT56428954RGHT1234H3

## Indoor Fixtures\*

Indoor Fixtures*		Light Output (lumens)	Lumens per Watt (Efficacy)	Typical CRI	Typical CCT Range
Fluorescent Under-cabinet Task Lighting (typical)		≥ 125 per ft	29	75	2700K--6500K
Portable Desk Task Lights with CFLs (typical)		≥ 200	29		
Fluorescent Cove Lighting (typical with T5 lamps)		≥ 445 per ft	56		
Track Lights		≥ 200 per head	35		
Downlights with CFLs (by diameter)	< 4.5"	≥ 345	35		
	> 4.5"	≥ 575			
Surface-mounted or recessed troffers:					
Two-foot-by-four-foot (lensed, with two T12 lamps)		4400	51		
Two-foot-by-four-foot (parabolic, with two T8 lamps)		3700	63		
Refrigerator display case lighting (center-mounted)		100 per ft	35		
Refrigerator display case lighting (end-mounted)		50 per ft			

## Outdoor Fixtures\*\*

Outdoor Fixtures**	Lamp Wattage	Estimated Luminaire Light Output (lumens)	Estimated Luminaire Efficacy (lumens per watt)	Typical CRI	Typical CCT Range
Outdoor Area/Roadway, Parking Garage, Canopy Lights, High-bay and Low-bay					
High Pressure Sodium (HPS)	150	8,000--13,000	46--75	20	2000K--3000K
	250	12,000--18,000	42--63		
	400	25,000--40,000	54--87		
Metal Halide (MH)	150	6,000--10,000	35--58	65	3000K--6000K
	250	11,000--18,000	38--63		
	400	20,000--32,000	43--70		
Outdoor wall-mounted					
High Pressure Sodium (HPS)	100	5,000--7,000	43--61	20	2000K--3000K
	150	8,000--13,000	46--75		
Metal Halide (MH)	100	5,000--7,000	35--61	65	3000K--6000K
	150	6,000--10,000	35--58		
Bollards					
High Pressure Sodium (HPS)	50	1,000--2,000	17--35	20	2000K--3000K
	100	2,000--4,000	17--35		
Metal Halide (MH)	70	1,000--3,000	12--37	65	3000K--6000K
	100	2,000--4,000	17--35		

\*Performance data for indoor fixtures is based on benchmark testing of conventional light sources by Pacific Northwest National Laboratory (PNNL) on behalf of the DOE Solid-State Lighting Program. Refrigerator display case lighting performance is shown only as a suggested reference. Refer to [www.designlights.org](http://www.designlights.org) for more information.

\*\*Light output and efficacy values for outdoor fixtures (luminaires) are based on rated lamp light output and input power from manufacturer published photometric (.ies) files, in addition to estimated luminaire power losses of 15% and luminaire light losses of 20%-50% (50%-80% for bollards).

The outdoor fixture performance table above is only intended to be used as a rough guide. A thorough review of outdoor LED luminaires should include, at a minimum, additional metrics such as light uniformity and light distribution. See more detailed DOE guidance on outdoor lighting here: <http://www1.eere.energy.gov/buildings/ssl/resources.html>.