

Technical Requirements Table v1.5

Application	Minimum Light Output	Zonal Lumen Requirements	Minimum Luminaire Efficacy	Allowable CCTs (ANSI C78.377-2008)	Minimum CRI	Minimum LED Lumen Maintenance at 6000hrs ¹	Minimum Luminaire Warranty
1. Outdoor Pole/Arm-Mounted Area and Roadway Luminaires	1,000 lm	=100% 0-90°, <10 % 80°-90°	50 lm/W	<6500K	50	95.8%	N/A
2. Outdoor Pole/Arm-Mounted Decorative Luminaires	1,000 lm	95% 0°-90°	40 lm/W	<6500K	50	95.8%	N/A
3. Outdoor Wall-Mounted Area Luminaires	300 lm	=100% 0°-90°, <10 % 80°-90°	40 lm/W	<6500K	50	95.8%	N/A
4. Parking Garage Luminaires	2,000 lm	≥20% 60-70°, ≥15% 70-80°	56 lm/W	<6500K	50	95.8%	N/A
5. Fuel Pump Canopy	2,000 lm	≥40%: 0° to 40°; ≥40%: 40° to 70°	56 lm/W	<6500K	50	95.8%	N/A
6. Track or Mono-point Directional Lighting Fixtures	250 lm	≥ 85% 0°-90°	30 lm/W	2700K, 3000K, 3500K, 4000K, 5000K	75	95.8%	N/A
7. Refrigerated Case Lighting	Center-mounted*: >=100 lm/ft End-mounted**: >= 50 lm/ft	≥95%: 10° to 90°	35 lm/W	2700K, 3000K, 3500K, 4000K, 4500K, 5000K	70	95.8%	5 years
8. Display Case Lighting	End-mounted**: = 50 lm/ft	≥ 95% 0-80°	35 lm/W	2700K, 3000K, 3500K, 4000K, 4500K, 5000K	75	94.1%	3 years
9. Linear Panels (2x2 Troffers ONLY)	>3000 lm	≥50% 30°-60°:	55 lm/W	2700K, 3000K, 3500K, 4000K, 4500K, 5000K	80	94.1%	3 years
10. High-bay and Low-bay fixtures for Commercial and Industrial buildings	>10000 lm	≥30% 20°-50°	60 lm/W	2700K, 3000K, 3500K, 4000K, 4500K, 5000K, 5700K, and 6500K	70	94.1%	3 years
11. High-bay-Aisle Lighting	>10000 lm	≥ 50% 20°-50° ≥ 30% 0°-20°	60 lm/W	2700K, 3000K, 3500K, 4000K, 4500K, 5000K, 5700K, and 6500K	70	94.1%	3 years

Updated September 28, 2010

Source for Outdoor Specs- DOE ENERGY STAR® Eligibility Criteria - Version 1.1 December 19, 2008

(www.drintl.com/temp/ENERGYSTAR_SSLCriteria_V1_1.pdf)

*Bilateral, symmetric light distribution on two hemispheres

**One-sided, single hemisphere light distribution

¹ Lumen Maintenance - LM-80 thresholds-explanation is on the second page The DLC uses a pass/fail threshold for lumen maintenance compliance, as established in the Energy Star Manufacturer's Guide v2 pg. 7 (http://www.energystar.gov/ia/partners/manuf_res/downloads/ENERGYSTAR_Manufacturers_Guide_v2.pdf). The requirements differ for applications requiring 35,000 hours of useful life and those requiring 50,000 hours, as follows:

Application required minimum useful life (L70)	Required lumen maintenance at 6,000 hours
35,000 hours	94.1%
50,000 hours	95.8%

These percentages result from solving an exponential decay function for 35,000 and 50,000 hours, respectively, to determine the minimum lumen maintenance necessary to achieve those thresholds.

Designlights™ Consortium Qualified Product List Product Family/Grouping Clarifications

Introduction

For each application, the applicant may submit only one product model number for evaluation. This submitted model number has to be a detailed model number such as "ROADWAY-TYPE2-XYZ-700MA-5000K-BLK", and it can not represent a whole family of different models such as "ROADWAY-TYPE2-xxx-xxxMA-xxxK-xxx" with undefined accessory options.

If the applicant wants to include any other model (call it "family model") in the same product family as the submitted model, this "family model" must be identical to the submitted model except for the following two scenarios:

1. The "family model" exterior housing has a different color
2. The "family model" uses the same LED chip model as the submitted model but the LED chip has a different phosphor that produces a higher CCT value than the submitted model
3. The "family model" is a refrigerated case end mounted fixture that is symmetric with the opposite end mounted fixture. (e.g.If the application is for the right end fixture, the left end fixture is a family member.)

The applicant has to provide proof that the difference between the "family model" and the submitted model is limited to the above two scenarios. Any other difference from the submitted model constitutes a different product family.

Please list all detailed "family model" numbers separately in the submission form. When the "family model" is listed in the Qualified Product List, it will carry the same data values as the submitted model, which is intended to be the lowest performance of the product family.

Examples

Applicant A1 submitted data for a fixture model "ROADWAY-TYPE2- XYZ-700MA-5000K-BLK" to DLC website for evaluation, and the product literature shows it uses LED chip Manufacturer M1's "XYZ-5000K" LED chip with a drive current of 700mA.

Below are a few examples of fixture models that *can* be included as "family model" for the submitted model:

- ROADWAY-TYPE2- XYZ-700MA-5000K-**WHT** (only differ in exterior color)
- ROADWAY-TYPE2- XYZ-700MA-**6000K**-BLK (only higher CCT)

Below are a few examples of fixture models that *can not* be included as "family model" for the submitted model:

- ROADWAY-**TYPE3**- XYZ-700MA-5000K-BLK (different light distribution)
- ROADWAY-TYPE2- **ABC**-700MA-5000K-BLK (different LED chip model, leading to different optical and electrical performance that may be worse than the submitted model)
- ROADWAY-TYPE2- XYZ-**350MA**-5000K-BLK (different drive current)
- ROADWAY-TYPE2- XYZ-700MA-**4000K**-BLK (CCT lower than submitted model)
- ROADWAY-TYPE2- XYZ-700MA-5000K-BLK-**DoubleLEDs** (a different number of LED chips)

2 Zonal Lumen Tolerance Table

Category	Zone (degrees)	Nominal Requirement (%)	Tolerance (%)	Actual Requirement (%)
1	0-90	100	0	100
	80-90	<10	3	<13
2	0-90	>=95	-3	>=92
3	0-90	100	0	100
	80-90	<10	3	<13
4	60-70	>=20	-3	>=17
	70-80	>=15	-3	>=12
5	0-40	>=40	-3	>=37
	40-70	>=40	-3	>=37
6	0-90	>=85	-3	>=82
7- center	0-80	>=95	-3	>=92
7-end	0-80	>=95	-5	>=90
8	0-80	>=95	-5	>=90
9	30-60	>=50	-10	>=40
10	20-50	>=30	-10	>=20
11	20-50	>=50	-10	>=40
	0-20	>=30	-10	>=20