SSL Technical Requirements

Versions 5.0 & 5.1

February 20, 2020

Agenda

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    a. V5.0 Requirements

    b. V5.1 Requirements

5. **Manufacturer and Industry Guidance**

6. **Q&A Session**

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Senior Technical Operations Manager
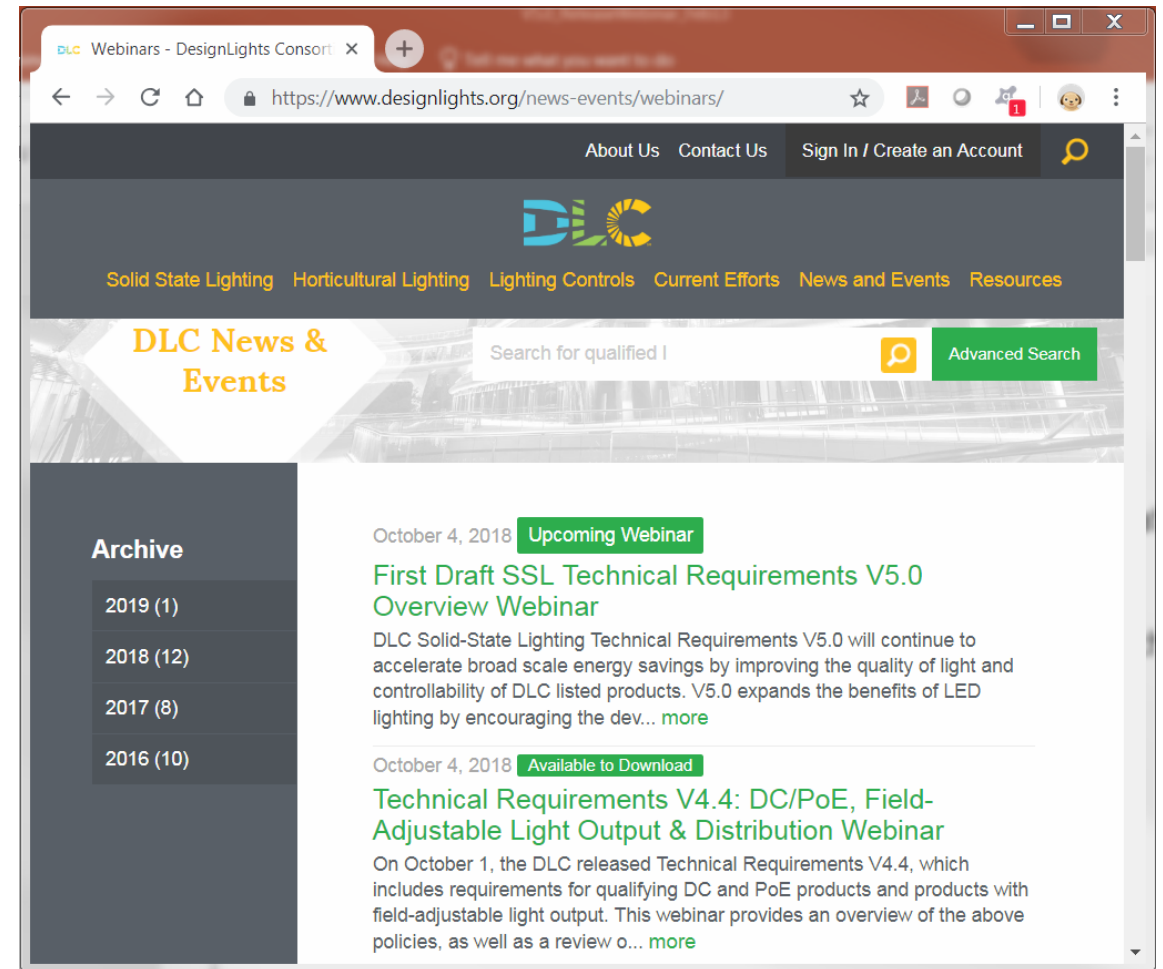
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Webinar Logistics

- **Slides and recorded webinar will be posted** on the *DLC News & Events* page at www.designlights.org shortly after today's presentation

- All attendees are automatically muted

  - If you experience technical issues, please use the chat feature to let us know

Questions and Answers

- We will leave **20 minutes** after the presentation to answer questions. Please enter your Questions pane in GoToWebinar.

  - DLC technical support team will answer questions as they come in via the questions pane

  - Some questions will be answered anon at the end aloud during the Q&A session

Version 5 Purpose and Goals

Purpose of Version 5

Continue to accelerate broad scale energy savings by improving the quality of light and controllability of DLC listed products

Efficacy Increase

Quality of Light

Controllability

Why Increase Efficacy?

- **More energy savings** to be captured in utility programs

- **More value** to customers

- Relative to previous Versions, V5 represents a **smaller efficacy increase** as continuing large increases in efficacy can have impacts on quality and cost

Efficacy Increase

Why Improve Quality of Light?

- Provide **increased comfort and satisfaction** to customers

- **Counteract** trend of efficacy at expense of quality and **mitigate** potential negative impacts

- **Enable differentiation** of products with better quality performance

Quality of Light

Why Improve Controllability?

- **More energy savings** to be captured in utility programs

- **More value** to customers

- Important aspect of **quality of light**

- Backbone for **Networked Lighting Controls and IoT**

Controllability

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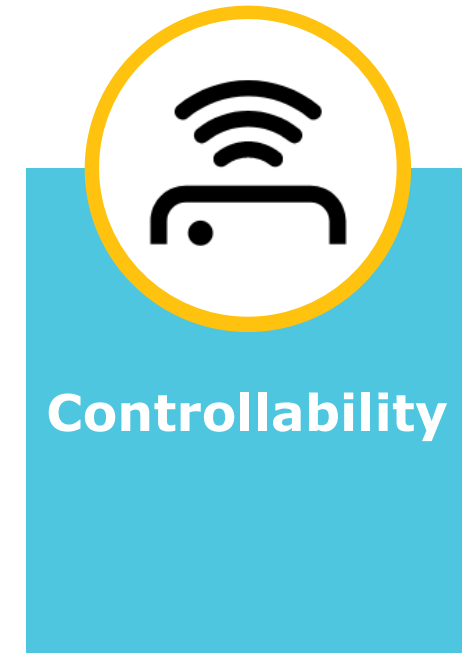
Goals of Version 5

The efficacy of listed products increases with the pace of technology, without compromising quality of light

Virtually all listed products are dimmable, providing increased energy savings and more user satisfaction

V5.0 color quality requirements help provide people the lighting they want with more color consistency over time

Lighting decision makers can use DLC Premium classification to have better confidence in the glare performance of listed products

SSL Version 5 Overview

Key Points of V5

1. The V5 requirements include two policies: **V5.0 and V5.1** released at the same time

2. The two Versions have different effective dates: V5.0 is effective as of **February 18, 2020** and V5.1 will be effective on **July 1, 2020**

3. DLC will **automatically update products** currently listed under V4.4 that meet the V5.0 requirements

4. Application **fee amounts will be modified** and become effective on July 1, 2020

5. By 2021, all products must meet all V5.0 Requirements. By 2022, all products must meet **all V5.1 requirements**

V5.0 and V5.1 Structure

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Solid-State Lighting (SSL)
Technical Requirements
Version 5.0

- Effective: February 18, 2020
- Includes efficacy increase and Interior Luminaire and Retrofit Kit Dimming Requirements
- DLC will automatically transition passing products from V4.4 to V5.0
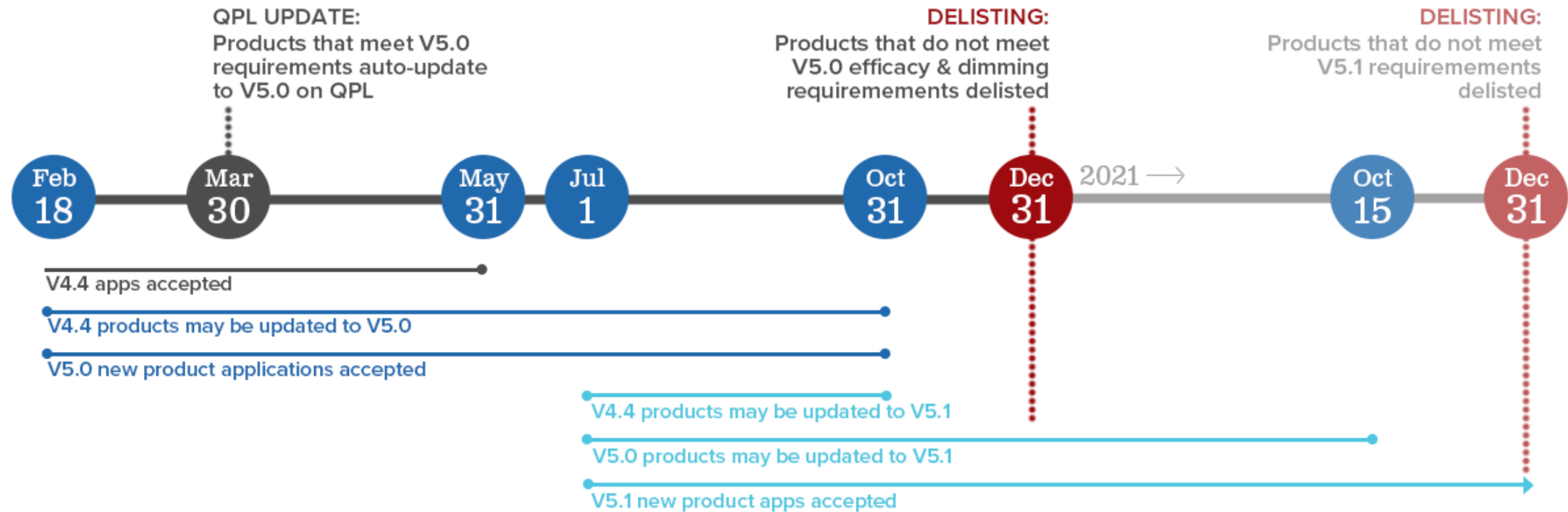
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Solid-State Lighting (SSL)
Technical Requirements
Version 5.1

- Effective: July 1, 2020
- Includes quality of light and comprehensive dimming requirements

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Summary of Changes in Version 5

Topic	V4.4 to V5.0 Changes	V5.0 to V5.1 Changes
Efficacy	Efficacy is increased	New general application and update PUD
Color	None	Changes to chromaticity and color rendition requirements New color maintenance requirements
Light Distribution	None	Additional distribution requirements
Controllability	New dimming requirements	Comprehensive dimming requirements and controls reporting
Allowances	None	New allowances and higher maximum
DLC Premium	New efficacy, dimming, and controls reporting requirements	New color and discomfort glare requirements
Tolerances	None	New and updated tolerances
Lumen Maintenance	None	TM-21 Addendum B compliance and uneven intervals exception
Reference Housings	None	Removed for some lamps; replaced with beam angle requirement
Power Factor & THD	None	None
Warranty	None	None
Safety Certification	None	None

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V5 Timeline

QPL UPDATE:
Products that meet V5.0 requirements auto-update to V5.0 on QPL

DELISTING:
Products that do not meet V5.0 efficacy & dimming requiremements delisted

DELISTING:
Products that do not meet V5.1 requiremements delisted

Feb 18 — Mar 30 — May 31 — Jul 1 — Oct 31 — Dec 31 — 2021 → — Oct 15 — Dec 31

V4.4 apps accepted

V4.4 products may be updated to V5.0

V5.0 new product applications accepted

V4.4 products may be updated to V5.1

V5.0 products may be updated to V5.1

V5.1 new product apps accepted

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V5.0 Technical Requirements

Overview

V5.0 Requirements: Efficacy

- The efficacy increases intend to **balance energy savings, product cost, and quality of light**

- DLC Standard minimum efficacy requirements **increase an average of 12%** over V4.4

- DLC Premium under V5.0 is a **flat 15 lumen per watt increase over standard**
  - More on DLC Premium later in the webinar

V5.0 Requirements: Efficacy

General Application		Standard (lm/W)		Premium (lm/W)	
		V4.4	V5.0	V4.4	V5.0
Indoor	Troffer	100	110	125	125
	Linear Ambient	105	115	130	130
	High-Bay	105	120	130	135
	Case Lighting	80	95	125	110
	Interior Directional	65	80	90	95
Outdoor	Low Output	90	105	110	120
	Mid Output	95	105	115	120
	High Output	100	105	120	120
	Very High Output	100	105	120	120
Lamps	Linear Replacement	110	120	n/a	n/a
	4-pin CFL Replacement	75	85	n/a	n/a

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V5.0 Requirements: Controllability

- **Builds upon existing** V4.4 controllability requirements

- New requirements focused on **Indoor Luminaires and Retrofit Kits**

- Integral controls reporting is **required for DLC Premium** (no change from V4.4)

V5.0 Requirements: Controllability

Metric	V4.4 Requirements	V5.0 Requirements	QPL Listing	Method of Evaluation
Dimming	Required reporting of dimming capability for all products	*Indoor luminaires and retrofit kits, excluding case lighting and specialty hazardous:* **Continuous dimming capability required.** *All other products:* Required reporting of dimming capability.	1. Dimming capability: continuous, step, none 2. Range of continuous dimming (if applicable): Below 10%, Above 10%	Product specification sheet must clearly identify dimming capability and range of continuous dimming (if applicable)
Integral Controls	Optional reporting of integral controls capability (Yes/No); Reporting required for Premium.	Optional reporting of integral controls capability (Yes/No); Reporting required for Premium. (No change from V4.4)	1. Integral control capability: yes, no	Product specification sheet or supplemental controls documentation must clearly identify the option for integral controls.

Continuous Dimming: Per NEMA LSD-64: *a lighting control strategy that varies the light output of a lighting system over a continuous range from full light output to a minimum light output without flickering in imperceptible steps.* Continuous dimming shall be capable of reducing the light output to at least 20% of full light output.

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V5.0 Requirements: DLC Premium

- DLC Premium efficacy requirement is a **flat 15 lumen per watt increase over DLC Standard**

- All Premium products must be **capable of continuous dimming**

V5.0 Requirements: DLC Premium

Metric	V4.4 Requirements	V5.0 Premium Requirements	QPL Listing	Method of Evaluation
Efficacy	Premium efficacy requirements vary by General Application. The product-weighted average is +22 lumens per watt over V4.4 Standard efficacy.	**+15 lumens per watt** over V5.0 Standard efficacy requirements.	Same as V5.0 Standard	Same as V5.0 Standard
Controllability	Products are required to report integral controls capability	All products must be **capable of continuous dimming**. All products shall report on the **availability of integral controls** (Indicate: Yes/No)	Same as V5.0 Standard	Same as V5.0 Standard

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V5.0 Requirements: Others

- Other requirements that do not change from V4.4
  - Chromaticity
  - Color Rendering
  - DLC Premium (other than efficacy and dimming)
  - Allowances
  - Tolerances
  - Power Quality
  - Lumen Maintenance

V5.1 Technical Requirements

Overview

V5.1 Requirements: Efficacy

- Minimum light output and efficacy values have not changed from V5.0, but V5.1 includes the following changes:

    - **Revised minimum light output requirements for High-Bay** Primary Use Designations

    - **A new Low-Bay General Application** with minimum light output and efficacy requirements

    - **Removed in-luminaire requirements for Linear Replacement Lamps**, per the Reference Housings update

V5.1 Requirements: Spectral Quality

- **Expands CCT range** allowed for qualification

- **Improves CCT consistency** for Premium

- Allows both **CRI and TM-30 pathways** to meet color rendition requirements

- Requires **SPD reporting** with LM-79 reports

- Introduces **Color Maintenance requirements** for qualification

V5.1 Requirements: Spectral Quality

Metric	V4.4 Requirements	V5.1 Requirements	QPL Listing	Method of Evaluation
Chromaticity (CCT & D_{uv})	Products shall exhibit chromaticity consistent with at least one of the basic, nominal, 7-step quadrangle CCTs ≤ 5000 K (indoor) and CCT ≤ 5700 K (outdoor & high bay)	Products shall exhibit chromaticity consistent with at least one of the basic, flexible, or extended nominal, **7-step quadrangle CCTs from 2200K – 6500K**	CCT and D_{uv} for parent products that are from LM-79 test reports will be listed as Tested Data. Nominal CCT for child products will be listed as Reported Data.	ANSI/IES LM-79 *ANSI C78.377-2017*
Spectral Power Distribution (SPD)	n/a	**Spectral range of 380-780 nm at ≤5 nm increments** must be reported.	ANSI/IES LM-79 (per IES TM-27-14 and/or ANSI/IES TM-33-18)	Spectral Power Distribution (SPD)

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V5.1 Requirements: Spectral Quality

Metric	V4.4 Requirements	V5.1 Requirements	QPL Listing	Method of Evaluation
Color Rendition	**CRI (CIE 13.3-1995):** $R_a \geq 80$ (indoor)	*Indoor, except high-bay:* **Option 1 - ANSI/IES TM-30-18:** • IES $R_f \geq 70$ • IES $R_g \geq 89$ • $-12\% \leq$ IES $R_{cs,h1} \leq +23\%$ **Option 2 - CIE 13.3-1995:** • $R_a \geq 80$ • $R_9 \geq 0$	All color rendition metrics for parent products that are from LM-79 test reports will be listed as Tested Data. All color rendition metrics for child products will be listed as Reported Data.	ANSI/IES LM-79 *ANSI/IES TM-30-18* *CIE 13.3-1995*
	CRI (CIE 13.3-1995): $R_a \geq 65$ (outdoor) $R_a \geq 70$ (high bay)	*Outdoor and high-bay:* **Option 1 - ANSI/IES TM-30-18:** • IES $R_f \geq 70$ • IES $R_g \geq 89$ • $-18\% \leq$ IES $R_{cs,h1} \leq +23\%$ **Option 2 - CIE 13.3-1995:** • $R_a \geq 70$ • $R_9 \geq -40$		

V5.1 Requirements: Spectral Quality

Metric	V4.4 Requirements	V5.1 Requirements	QPL Listing	Method of Evaluation
Color Maintenance	None	*All Indoor products, except high-bay:* Chromaticity shift from ~1,000-hour measurement to ~6,000-hour measurement shall be within a linear **distance of 0.004 ($\Delta u'v' \leq 0.004$)** on the CIE 1976 (u', v') chromaticity diagram. *All Outdoor and high-bay products:* Chromaticity shift from ~1,000-hour measurement to ~6,000-hour measurement shall be within a linear **distance of 0.007 ($\Delta u'v' \leq 0.007$)** on the CIE 1976 (u', v') chromaticity diagram.	Color maintenance information will not be listed on the QPL at this time.	ANSI/IES LM-80, and/or IES LM-84-14

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V5.1 Requirements: Light Distribution and Discomfort Glare

- Added **beam angle requirements** for linear replacement lamps

- **Required reporting of BUG (Backlight, Uplight, and Glare) ratings** for outdoor luminaires

- Includes **discomfort glare requirements**, based on the Unified Glare Rating (UGR), for eligible products seeking Premium classification or efficacy allowances

V5.1 Requirements: Light Distribution & Discomfort Glare

Metric	V4.4 Requirements	V5.1 Requirements	QPL Listing	Method of Evaluation
Zonal Lumen Distributions (ZLD) & Spacing Criteria (SC) *All products except linear replacement lamps*	Specific Requirements for each PUD	Identical to V4.4	ZLD and SC information will not be published on the QPL.	ANSI/IES LM-79 and values produced by photometric analysis from tested .ies files.
Beam Angle *Linear replacement lamps only*	n/a	≥140˚	Reported beam angles will be listed as Reported Data on the QPL. Beam angle for parent products will be verified using the test report and listed as Tested Data on the QPL.	ANSI/IES LM-79
Backlight, Uplight, and Glare (BUG) *Outdoor luminaires only*	n/a	Report BUG ratings for each product	Reported BUG ratings will be listed as Reported Data on the QPL. BUG ratings for parent products will be generated using tested	BUG ratings generated per IES TM-15-11 and Addendum A for IES TM-15-11 using

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V5.1 Requirements: Controllability

- **Progressively builds upon** V5.0 controllability requirements

- Dimming requirement covers nearly all products, including **Outdoor and Replacement Lamps**

- **Expands controllability information** on QPL while limiting impact to product listings

V5.1 Requirements: Controllability

Metric	V4.4 Requirements	V5.1 Requirements	QPL Listing	Method of Evaluation
Dimming	Required reporting of dimming capability for all products	*Indoor luminaires and retrofit kits, excluding case lighting and specialty hazardous:* **Continuous dimming capability required** *Outdoor luminaires, retrofit kits, and mogul screw-base replacement lamps for outdoor applications, excluding landscape accent/flood, specialty sports flood, specialty tunnel, and specialty hazardous:* **Continuous or stepped dimming capability required** *Lamps, unless noted above:* **Continuous dimming capability required** *All other products:* **Required reporting of dimming capability**	1. Dimming capability: continuous, step, none 2. Range of continuous dimming (if applicable): Below 10%, Above 10%	Product specification sheet must clearly identify dimming capability and range of continuous dimming (if applicable)

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V5.1 Requirements: Controllability

Metric	V4.4 Requirements	V5.1 Requirements	QPL Listing	Method of Evaluation
Integral Controls	Optional reporting of integral controls capability (Yes/No); Reporting required for Premium.	All products are required to **report on integral control sensors and capabilities**	1. Integral control sensors * 2. Integral control capabilities ** 3. LLLC model name (optional and if applicable)	Product specification sheet or supplemental literature must clearly identify the types of integral controls available.
		* Integral control sensors include: Occupancy/Vacancy, Daylight, Multifunction (Occupancy + Daylight), Traffic, Photocell, Sensor Receptacle, None ** Integral control capabilities include: High-end Trim, LLLC, Energy Monitoring, Networked Replacement Lamp, None (*Multiple selections are permitted*)		

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V5.1 Requirements: Controllability

Metric	V4.4 Requirements	V5.1 Requirements	QPL Listing	Method of Evaluation
Control Communication	None	All products listed as dimmable are required to **report the available wired and/or wireless control communication protocol(s)**	1. Wired Communication Protocols * 2. Wireless Communication Protocols **	Product specification sheet or supplemental literature must clearly identify the communication type and dimming protocol (if applicable)
		* Wired options include: 0-10V, DALI, DMX, Power Line / Phase-cut, Other Wired, None ** Wireless options include: ZigBee, Bluetooth, Wi-Fi, Other Wireless, None *(Multiple selections are permitted)*		

V5.1 Requirements: DLC Premium

- DLC Premium efficacy requirement is a **flat 15 lumen per watt increase over standard**

- All Premium products must be **capable of continuous dimming**

- Premium products will be required to meet **tighter CCT tolerances**

- Added **discomfort glare requirements**, based on the Unified Glare Rating (UGR), for eligible products

V5.1 Requirements: DLC Premium

Metric	V4.4 Requirements	V5.1 Premium Requirements	QPL Listing	Method of Evaluation
Efficacy	Premium efficacy requirements vary by General Application. The product-weighted average is +22 lumens per watt over V4.4 Standard efficacy.	**+15 lumens per watt** over V5.0 Standard efficacy requirements.	Same as V5.1 Standard	Same as V5.1 Standard
Controllability	Products are required to report integral controls capability	All products must be **capable of continuous dimming**. (note: integral control reporting is required for all products at DLC standard level)	Same as V5.1 Standard	Same as V5.1 Standard
Chromaticity (CCT & Duv)	None	*All Indoor products, except High-Bay*: Products shall exhibit chromaticity consistent with at least one of the basic, flexible, or extended nominal, **4-step quadrangle CCTs from 2200K – 6500K** *All other products*: Same as V5.1 Standard	Same as V5.1 Standard	Same as V5.1 Standard

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Discomfort Glare: Unified Glare Rating (UGR)

- CIE definition of discomfort glare
  "glare which causes discomfort without necessarily limiting the vision of objects"

- Relationship between glare perception and UGR

- Glare control is an important non-energy benefit
  https://www.energy.gov/sites/prod/files/2020/02/f71/ssl-rd2020-skumatz-features_0.pdf

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V5.1 Requirements: DLC Premium (Discomfort Glare)

Metric	V4.4 Requirements	V5.1 Premium Requirements	QPL Listing	Method of Evaluation
Discomfort Glare	n/a	*Troffer (Luminaire and Integrated Retrofit Kits only)* **Corrected UGR < 22.0**	UGR values will not be published on the QPL	Corrected UGR values generated per CIE 190-2010 at the reference condition below:

Room dimension: X = 4H, Y = 8H

Spacing to height ratio (S/H): 1

Reflectances: 70/50/20% |
		Linear Ambient (Luminaire and Retrofit Kits): **Corrected UGR < 22.0**		
		Low-Bay (Luminaires and Retrofit Kits): **Corrected UGR < 25.0**		
		High-Bay (Luminaires and Retrofit Kits): **Corrected UGR < 28.0**		
		All other products: **n/a**		

DLC uses Photometric Toolbox32, version 2.7 or later for UGR analyses

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Additional Reporting Guidelines

- V5.1 requires **complete information** be included in LM-79 test reports that may not have been required in the past

- Includes new compliance requirements related to **TM-21 and its Addendum B** for lumen maintenance projections
  - Allows for uneven intervals where testing was initiated prior to March 31, 2015

IES LM-79 (-08 and -19 versions)

- Color-specific test reports are referred to in V5.1 as **"full LM-79/color reports"** include:
  - Electrical characteristics (Wattage, input voltage)
  - Total luminous flux
  - Efficacy
  - Chromaticity ((x,y), (u,v) and (u',v'))
  - CCT and Duv
  - IES TM-30 calculators will not be accepted in 5.1; the full report must be included in the LM-79
  - Accompanying .SPDX document (IES TM-27) with spectral power distribution data from 380-780 nm in 5nm increments

IES LM-79 (-08 and -19 versions)

- Distribution-specific test reports are referred to in V5.1 as **"full LM-79/distribution reports"** include:
  - Electrical characteristics (Wattage, input voltage, THD, and PF)
  - Luminous intensity distribution (Candela array)
  - .ies file (ANSI/IES LM-63-02(R2008)) meeting the following requirements:
    - Include important test information (test report number, test lab, etc.) using proper keywords
    - The multiplier field shall only be 1.0 (the candela values are actual goniophotometer measurements and not scaled values)
    - Luminous intensity data is presented using Type C photometry format
    - Luminous intensity data angular resolution complies with the scanning resolution specified in LM-79 (≤5° vertical and ≤22.5° horizontal for wide-angle, smooth intensity distribution)
    - The luminous dimensions appropriately reflect the luminous opening of the luminaire's luminous opening per the "Additional Guidance on Luminous Dimensions".

IES TM-21-11 and its Addendum B

- Long term lumen maintenance projections will be accepted only if fully compliant with **TM-21-11 and its Addendum B**. Includes:
  - Luminous flux data collection and selection (section 4.3)
  - Data used for the curve-fit (section 5.2.3)
  - Temperature data interpolation (section 6.0)
  - Limit for Extrapolation (section 6.5)
- Uneven interval reporting for TM-21 projections drawing from an LM-80 report initiated **prior to March 31, 2015**, one year after the introduction of even intervals in Addendum A to TM-21, **are allowed**
- Regardless of even or uneven testing intervals, the data must **be sufficient for projecting to 50,000 hours**

V5.1 Requirements: Allowances

- **Simplified** CCT allowances

- Two tiers of allowances for **better color rendering performance**

- Includes **discomfort glare metrics**, based on the Unified Glare Rating (UGR), for eligible products seeking efficacy allowances

- **Increases maximum allowance** to 15%

5.1 Requirements: Color Allowances

Feature	General Application	Performance Metric	Allowance under V4.4	Allowance under V5.0
CCT	All	≤ 3000K	-3%	n/a
	All	≤ 2700K	-5%	-5%
Color Rendition	Indoor, excluding high-bay	ANSI/IES TM-30-18: • IES $R_f \geq 75$; IES $R_g \geq 92$ • $-7\% \leq$ IES $R_{cs,h1} \leq +19\%$ CIE 13.3-1995: • $R_a \geq 90$ and $R_9 \geq 50$	-5%	-5%
		ANSI/IES TM-30-18: • IES $R_f \geq 78$; IES $R_g \geq 95$ • $-1\% \leq$ IES $R_{cs,h1} \leq +15\%$	n/a	-10%
	Outdoor and high-bay	ANSI/IES TM-30-18: • IES $R_f \geq 70$; IES $R_g \geq 89$ • $-12\% \leq$ IES $R_{cs,h1} \leq +23\%$ CIE 13.3-1995: • $R_a \geq 80$ and $R_9 \geq 0$	n/a	-5%

5.1 Requirements: Glare Allowances

Feature	General Application	Performance Metric	Allowance under V4.4	Allowance under V5.0
Discomfort Glare	Troffers & Linear Ambient	**UGR < 16.0**	n/a	-10%
	Low-Bay	**UGR < 19.0**	n/a	-10%
	High-Bay	**UGR < 22.0**	n/a	-10%

All UGR analyses are evaluated with the reference condition of:

- Room dimension: X = 4H, Y = 8H
- Spacing to height ratio (S/H): 1
- Reflectances: 70/50/20%

Maximum Allowance

- **15% Maximum Allowance**
  - Allows a product with true high quality of light to get some portion of each allowance type available
    - E.g. a troffer that has:
      - CCT of 2700K (5%)
      - $R_a \geq 90$ and $R_9 \geq 50$ (5%)
      - UGR < 16 (10%)
    - Could claim 15% (effectively 5% from each Quality of Light criterion)

5.1 Requirements: Tolerances

Performance Metric	V4.4 Tolerance	V5.0 Tolerance
Light Output	±10%	±10%
Luminaire Efficacy	-3%	-3%
Allowable CCT	Defined by ANSI C78.377-2015	Defined by ANSI C78.377-2017
Minimum Color Rendering	-2 points Ra	All reported color rendition metrics, except IES $R_{cs,h1}$: -1 point IES $R_{cs,h1}$: -1 percent
Color Maintenance	n/a	Data must be collected within a ±48 hour window of both the "1000 hour measurement point" and the "6000 hour measurement point", with a $\Delta t \geq 5000$ hours.
UGR	n/a	None
Power Factor	-3%	-3%
Total Harmonic Distortion	+5%	+5%
Beam Angle (TLEDs only)	n/a	-5°

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V5.0 Requirements: Reference Housings

Other Categories (Retrofit Kits, Mogul Screw-Base (E39/E40) Replacements for HID Lamps, and G24q-base Replacement Lamps for CFLs)

- The DLC will continue using reference housing testing for eligibility review

- To address availability concerns
  - The DLC will **periodically review public sources** to check that the housings listed on the DLC Approved or Pre-Approved Housing webpage appear to be available on the market.

  - The **"Option B" pathway** for luminaire-specific retrofit kits remains in place. In cases where they do not appear to be available, the DLC will seek alternative housings and add them to the acceptable reference housing list.

Linear Replacement Lamps & 2G11-base Replacement Lamps for CFLs
- Will continue to use the same policy above *until 5.1*

5.1 Requirements: Reference Housings

Linear Replacement Lamps & 2G11-base Replacement Lamps for CFLs
- Removed the reference housing testing requirements for these product types
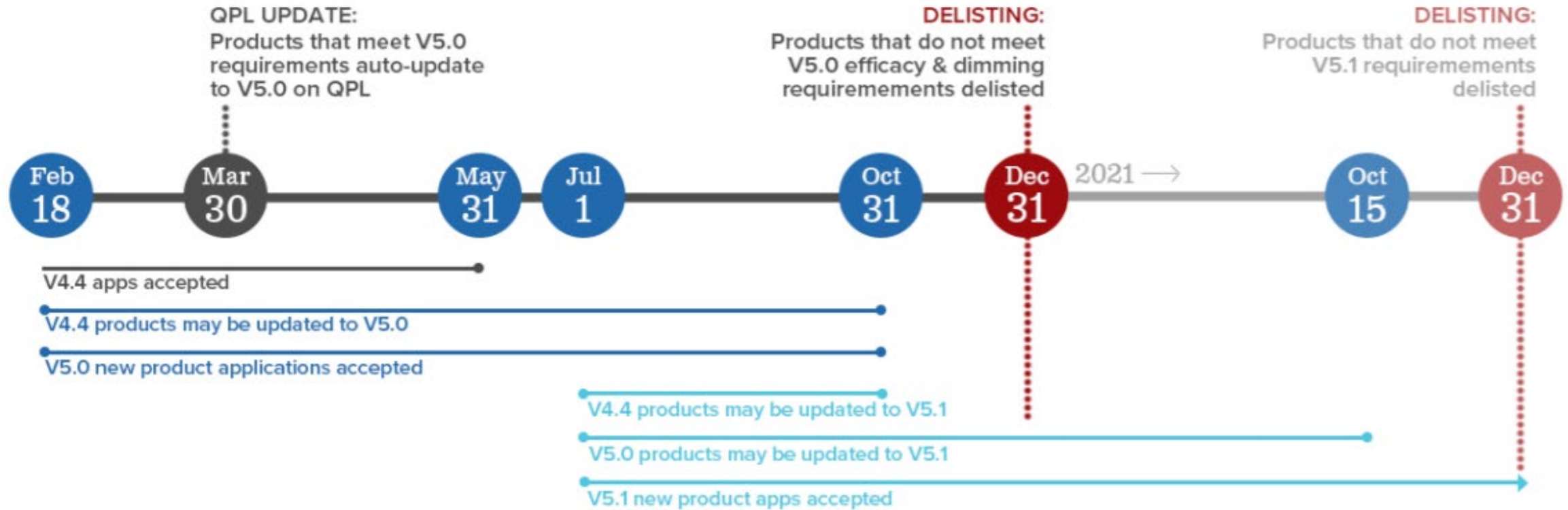- Replaced them with alternative requirements as described below
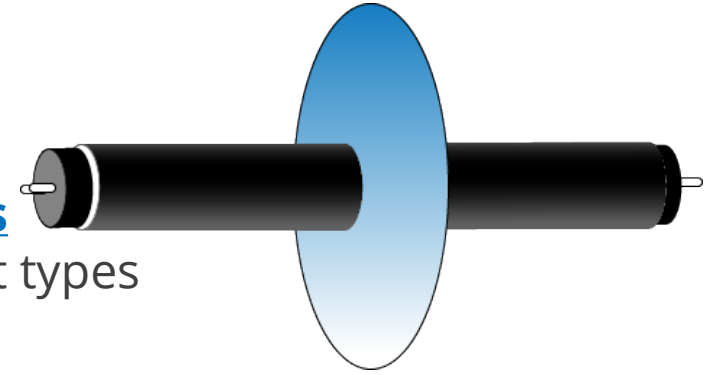
TLED General Application	Initial Light Output	Bare-lamp Efficacy	Bare-lamp Beam Angle
Two-foot Lamps, T8 Replacements	≥ 800 lm		
Three-foot Lamps, T8 Replacements	≥ 1,200 lm		
Four-Foot Lamps, T8 Replacements	≥ 1,600 lm		
Four-Foot Lamps, T5 Replacements	≥ 1,600 lm		
Four-Foot Lamps, T5HO Replacements	≥ 3,200 lm	≥ 120 lm/W	≥ 140°
Eight-Foot Lamps, T8 Replacements	≥ 3,200 lm		
U-bend Lamps, T8 Replacements	≥ 1,400 lm		
2G11 Replacement Lamps	≥ 1,900 lm		

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# **Manufacturer and Industry Guidance**

V5 Timeline

Auto-update: V4.4 to V5.0

- DLC will automatically transition all products whose reported data meet the efficacy and dimming requirements; **manufacturers will not have to take action to update those products.**

- Any child product will be allowed to stay listed, even if the parent does not meet the requirements, as long as the data for that child product meets the V5.0 requirements.

V5 Timeline

QPL UPDATE:
Products that meet V5.0 requirements auto-update to V5.0 on QPL
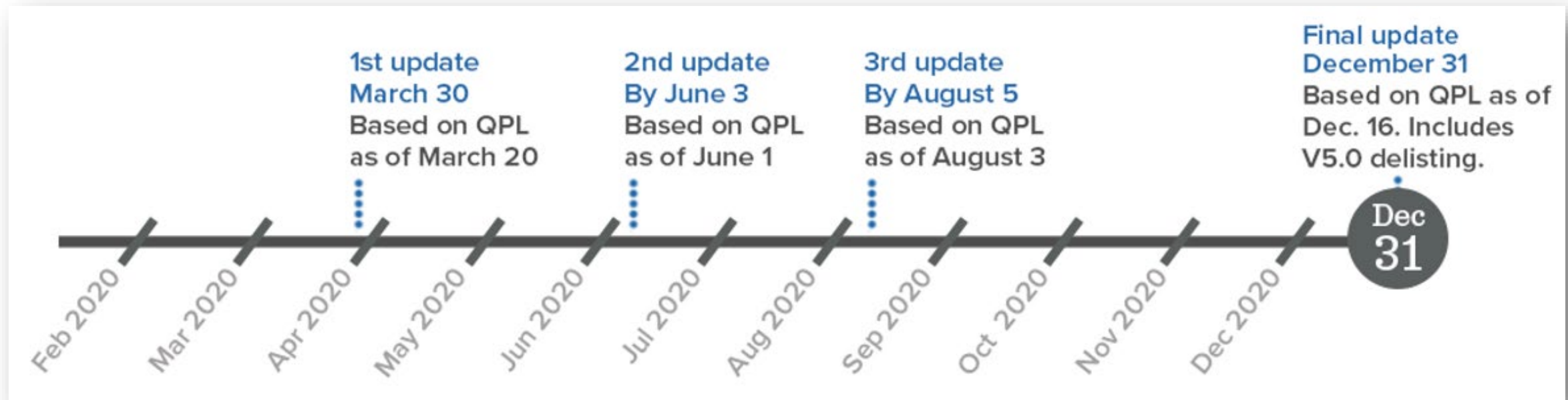
Feb 18
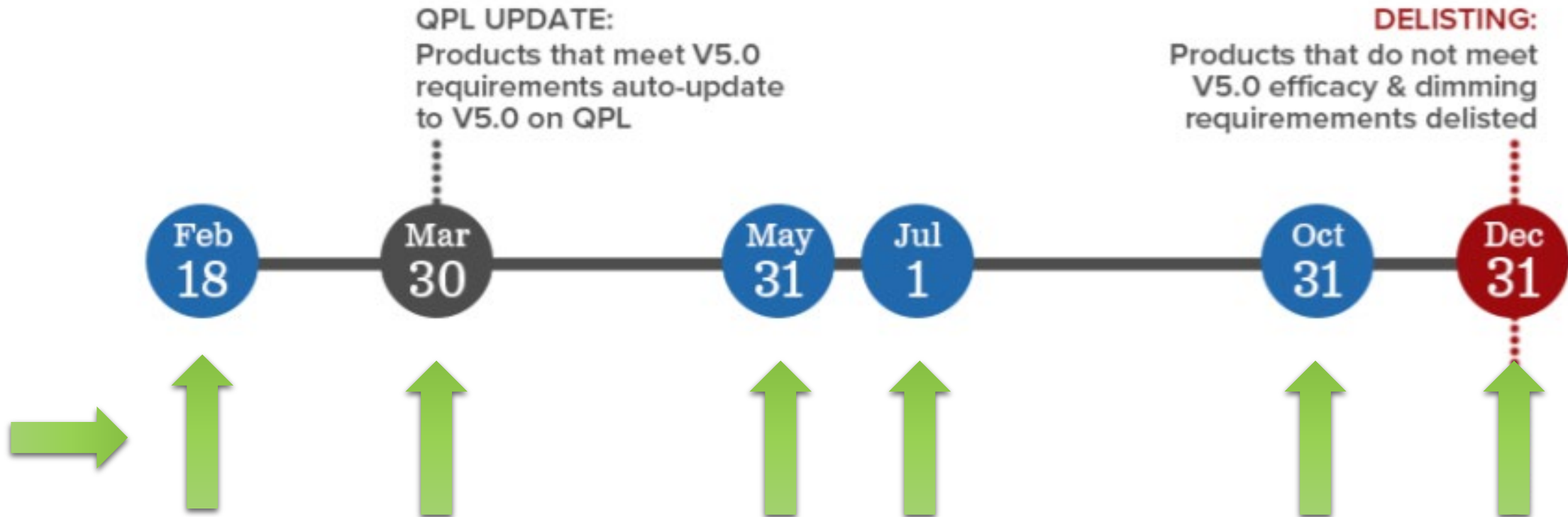
Mar 30
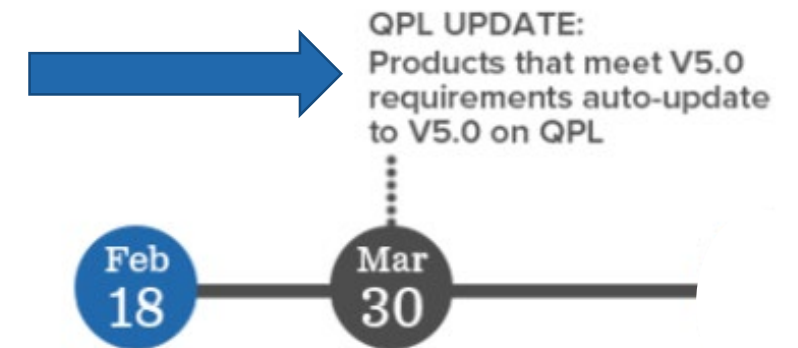
New V4.4 Process to Update Reported Data
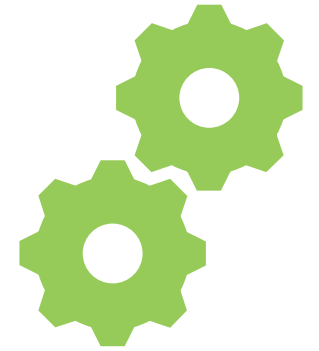
- Any V4.4 applications to update product performance and improve efficacy data must include:

  - An explanation of what has changed in the product from the time of original listing that results in improved efficacy

  - **New LM-79 sphere test for the worst case efficacy model that the manufacturer is seeking to update within a given product family.**

- Applications require a fee consistent with the number of LM-79 test reports evalauted

- DLC reserves the right to require additional information form applicants seeking to update their reported data throughout the transition of the V5.0 technical requirements.

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Manufacturer Notifications

- Keep contact information for manufacturers account administrator up-to-date in the DLC Application Portal

- Contact information can be updated in the "Account Info" tab.
  - Organizations' account administrator if the "Manage Users" tab is displayed
  - For manufacturer account administrator changes contact: applications@designlights.org.

V5.0 Timeline review

QPL UPDATE:
Products that meet V5.0 requirements auto-update to V5.0 on QPL

DELISTING:
Products that do not meet V5.0 efficacy & dimming requiremements delisted

Feb 18 — Mar 30 — May 31 — Jul 1 — Oct 31 — Dec 31

V5.0 Timeline review

Milestone	Date
Final V5.0 & V5.1 Technical Requirements released	February 14, 2020
V5.0 new product applications accepted	February 18, 2020
V5.0 update applications for V4.4 listed products accepted	February 18, 2020
Individual outreach sent to manufacturers (noting status of V4.4 listed products relative to V5.0)	February 20, 2020
Listed products that meet V5.0 requirements auto-update to V5.0 on the QPL	March 30, 2020
Deadline to submit products for qualification under V4.4 Technical Requirements	May 31, 2020
Deadline to submit V5.0 or V5.1 product update applications for V4.4 listed products	October 31, 2020
Deadline to submit new products for qualification under V5.0 Technical Requirements	October 31, 2020
Products that do not meet V5.0 requirements delisted	December 31, 2020

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V5.0 manufacturer update process

V4.4 Classification	V5.0 Classification	Action	Date
Standard	Standard	Auto-update	March 30, 2020
Premium	Premium	Auto-update	March 30, 2020
Standard/Premium	Not Listed	Update required or delisted by:	December 31, 2020
Premium	Standard	Update required or downgraded on:	December 31, 2020

- Update applications:

  - Efficacy update applications

  - Dimming update applications

V5.1 Timeline Review

DELISTING:
Products that do not meet V5.0 efficacy & dimming requirements delisted

DELISTING:
Products that do not meet V5.1 requirements delisted

Jul 1 — Oct 31 — Dec 31 — 2021 → — Oct 15 — Dec 31

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V5.1 Timeline Review

Milestone	Date
Final V5.0 & V5.1 Technical Requirements released	February 14, 2020
V5.1 new product applications accepted (new fee amounts apply)	July 1, 2020
V5.1 update applications for V4.4 or V5.0 listed products accepted (new fee amounts apply)	July 1, 2020
Deadline to submit V5.0 or V5.1 product update applications for V4.4 listed products	October 31, 2020
Deadline to submit V5.1 product update applications for V5.0 listed products	October 15, 2021
Products that do not meet V5.1 requirements delisted	December 31, 2021

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Application Processing Timing

- **V4.4 and V5.0** applications will have *NO CHANGE* in timing

- Application processing time **below effects V5.1 applications ONLY.**

Application Type	Initial Review	Comprehensive Review
Single Product	9 Business Days	7 Business Days
Family Grouping	9 Business Days	10 Business Days
Private Label	6 Business Days	6 Business Days
Product Updates	9 Business Days	10 Business Days

Fee Changes

- The current fee "model" will remain in place with V5

  - Fees not addressed in this presentation have not changed.

  - Application fees are calculated based on the number of *Independent Test Reports* and the number of *Additional Family Members*.

    - LM-79, LED ISTMT & Driver ISTMT report types are considered Independent Test Reports. Fees are not assessed for IES files.

- Fees are being adjusted as of **July 1, 2020 based on application invoice date**

Application Type	Item	July 1, 2020 Fee
Single Product	Single Product Application Fee	$750
Family Grouping	Independent Test Reports (ITRs)	$375
Family Grouping	Additional product family members	$30
Private Label	Independent Test Reports (ITRs)	$325
Private Label	Additional product family members	$30

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Manufacturer and Industry Guidance

- Provides more detailed guidance on
  - New Product Applications
  - Listed Product Updates
  - Auto Updating
  - Grace Periods
  - Delisting
  - 5.0/5.1 Timeline Key Dates

Thank you!

Questions?