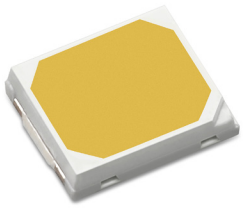
LUMILEDS

ILLUMINATION

LUXEON 2835 Commercial Visual Consistency

Build for Uniformity. Engineered for Confidence.



LUXEON 2835 Commercial Visual Consistency LEDs deliver premium, uniform lighting performance specifically engineered for high-end architectural lighting. Built on a standard 2835 package, they enable easy integration, consistent design iteration and fast product upgrades, greatly simplifying R&D processes and shortening time-to-market. Adopting a single color bin design with optional single VF bin at 65mA, these LEDs ensure excellent color consistency and precise electrical matching, delivering flawless uniform illumination across entire projects. The advanced secondary sorting technology supports smooth deep dimming while maintaining stable color accuracy. With reliable performance, superior light uniformity and refined visual aesthetics, they serve as an optimal choice for high-grade commercial and architectural lighting applications.

FEATURES AND BENEFITS

- Broad CCT & high CRI options offering for various application
- KSF and non-KSF choices available
- Options of single VF bin & deep dimming for string to string uniformity
- Industry standard footprint for drop-in replacement designs.
- Reliable package design for high-end architectural lighting
- Single 3-step MacAdam ellipse enable precise color control

PRIMARY APPLICATIONS

- Panel / Soft Lights
- Linear
- Troffers
- Downlights

c UL us No. E507562 RoHS COMPLIANT

Table of Contents

General Product Information

Product Test Conditions

LUXEON 2835 Commercial Visual Consistency LEDs are tested and binned with a 20ms monopulse specified below at a junction temperature,
T_j, of 25°C.

65mA – LUXEON 2835S 3V

120mA – LUXEON 2835S 6V (CPN to be launched)

100mA – LUXEON 2835S 9V (CPN to be launched)

50mA – LUXEON 2835S 18V (CPN to be launched)

Part Number Nomenclature

Part numbers for LUXEON 2835 Commercial Visual Consistency follow the convention below:

L 1 2 8 – **X X Y Y** S A 3 5 A **V 0** D **5**

L 1 2 8 – **X X Y Y** S A 3 5 A **V D** D **5**

L 1 2 8 – **X X Y Y** S A 3 5 **V 1 K** D **5**

L 1 2 8 – **X X Y Y** S A 3 5 **V D K** D **5**

Where:

X X – designates nominal ANSI CCT (27=2700K, 30=3000K, 35=3500K, 40=4000K, 50=5000K, 57=5700K, 65=6500K)

Y Y – designates minimum CRI (80=80CRI, 90=90CRI)

V 0 – designates non-KSF Single VF bin

V D – designates non-KSF Deep Dimming

V 1 K – designates KSF Single VF bin

V D K – designates KSF + Deep Dimming

5 – designates 3SDCM

Lumen Maintenance

Please contact your local Sales Representative or Lumileds Technical Solutions Manager for more information about the long-term performance of this product.

Environmental Compliance

Lumileds Holding B.V. is committed to providing environmentally friendly products to the solid-state lighting market. LUXEON 2835 Commercial Visual Consistency is compliant to the European Union directives on the restriction of hazardous substances in electronic equipment, namely the ROHS Directive 2011/65/EU including amendments 2015/863/EU & 2017/2102/EU and REACH Regulation (EC) 1907/2006. Lumileds Holding B.V. will not intentionally add the following restricted materials to its products: lead, mercury, cadmium, hexavalent chromium, polybrominated biphenyls (PBB) or polybrominated diphenyl ethers (PBDE).

Performance Characteristics

Product Selection Guide

Table 1. Product performance of LUXEON 2835 Commercial Visual Consistency LEDs at specified test conditions

Voltage	CCT [1]	MIN. CRI [2, 3]	TYPICAL FLUX [2, 3] (lm)	TYPICAL EFFICACY (lm/W)	TEST CURRENT (mA)	Color	VF Width	PART NUMBER[4]
3V	2700K	80	34.0	190.9	65	3 SDCM	0.1V	L128-2780SA35AV0D5
					0.65		0.05V	L128-2780SA35AVDD5
	3000K	80	34.8	195.4	65	3 SDCM	0.1V	L128-3080SA35AV0D5
					0.65		0.05V	L128-3080SA35AVDD5
	3500K	80	35.5	199.3	65	3 SDCM	0.1V	L128-3580SA35AV0D5
					0.65		0.05V	L128-3580SA35AVDD5
	4000K	80	36.3	203.8	65	3 SDCM	0.1V	L128-4080SA35AV0D5
					0.65		0.05V	L128-4080SA35AVDD5
	5000K	80	36.7	206.1	65	3 SDCM	0.1V	L128-5080SA35AV0D5
					0.65		0.05V	L128-5080SA35AVDD5
	5700K	80	36.7	206.1	65	3 SDCM	0.1V	L128-5780SA35AV0D5
					0.65		0.05V	L128-5780SA35AVDD5
	6500K	80	36.3	203.8	65	3 SDCM	0.1V	L128-6580SA35AV0D5
					0.65		0.05V	L128-6580SA35AVDD5
	2700K	90	29.3	164.5	65	3 SDCM	0.1V	L128-2790SA35AV0D5
					0.65		0.05V	L128-2790SA35AVDD5
	3000K	90	30.6	171.8	65	3 SDCM	0.1V	L128-3090SA35AV0D5
					0.65		0.05V	L128-3090SA35AVDD5
	3500K	90	31.6	177.4	65	3 SDCM	0.1V	L128-3590SA35AV0D5
					0.65		0.05V	L128-3590SA35AVDD5
	4000K	90	32.0	179.7	65	3 SDCM	0.1V	L128-4090SA35AV0D5
					0.65		0.05V	L128-4090SA35AVDD5
	5000K	90	32.0	179.7	65	3 SDCM	0.1V	L128-5090SA35AV0D5
					0.65		0.05V	L128-5090SA35AVDD5
	5700K	90	31.8	178.6	65	3 SDCM	0.1V	L128-5790SA35AV0D5
					0.65		0.05V	L128-5790SA35AVDD5
	6500K	90	31.6	177.4	65	3 SDCM	0.1V	L128-6590SA35AV0D5
					0.65		0.05V	L128-6590SA35AVDD5
	2700K	90	31.7	178.2	65	3 SDCM	0.1V	L128-2790SA35V1KD5
					0.65		0.05V	L128-2790SA35VDKD5
	3000K	90	32.9	184.9	65	3 SDCM	0.1V	L128-3090SA35V1KD5
					0.65		0.05V	L128-3090SA35VDKD5
	3500K	90	33.3	187.1	65	3 SDCM	0.1V	L128-3590SA35V1KD5
					0.65		0.05V	L128-3590SA35VDKD5
	4000K	90	34.1	191.6	65	3 SDCM	0.1V	L128-4090SA35V1KD5
					0.65		0.05V	L128-4090SA35VDKD5
	5000K	90	34.1	191.6	65	3 SDCM	0.1V	L128-5090SA35V1KD5
					0.65		0.05V	L128-5090SA35VDKD5
	5700K	90	34.1	191.6	65	3 SDCM	0.1V	L128-5790SA35V1KD5
					0.65		0.05V	L128-5790SA35VDKD5
	6000K	90	34.1	191.6	65	3 SDCM	0.1V	L128-6590SA35V1KD5
					0.65		0.05V	L128-6590SA35VDKD5

Notes for Table 1:
1. Correlated color temperature is cold-targeted at T_j=25°C.
2. Luminous flux and CRI specs are based upon mounted package on highly reflective surface at T_j=25°C. Typical CRI is approximately 2 points higher than the minimum CRI specified, but this is not guaranteed.
3. Lumileds maintains a tolerance of ±2 on CRI, ±7 % on luminous flux measurements and ±0.005 on x and y color coordinates in the CIE 1931 color space for these Part Numbers.
4. Please refer to the corresponding number for any technical report reference purposes, such as UL, RoHS, ecodesign, etc.

PART NUMBER	CORRESPONDING NUMBER
L128-XXYYSA35AV0D5	L128-XXYYSA35A00D1
L128-XXYYSA35AVDD5	L128-XXYYSA35A0DD1
L128-XXYYSA35V1KD5	L128-XXYYSA35A1KD1
L128-XXYYSA35VDKD5	L128-XXYYSA35ADKD1

Optical Characteristics

Table 2. Optical characteristics for LUXEON 2835 Commercial Visual Consistency at specified test current, T_j=25°C

PART NUMBER	TYPICAL TOTAL INCLUDED ANGLE [1]	TYPICAL VIEWING ANGLE [2]
L128-xxxxSA35xxxDx	160°	120°

Notes for Table 2:
1. Total angle at which 90% of total luminous flux is captured.
2. Viewing angle is the off axis angle from the LED centerline where the luminous intensity is ½ of the peak value.

Electrical and Thermal Characteristics

Table 3. Electrical and thermal characteristics for LUXEON 2835 Commercial Visual Consistency at specified test current, T_j=25°C

PART NUMBER	FORWARD VOLTAGE [1] (V_f)						TYPICAL TEMPERATURE COEFFICIENT OF FORWARD VOLTAGE [2] (mV/°C)	TYPICAL THERMAL RESISTANCE—JUNCTION TO SOLDER PAD (°C/W)
	@65mA			@0.65mA				
	MINIMUM	TYPICAL	MAXIMUM	MINIMUM	TYPICAL	MAXIMUM		
L128-xxxxSA35xxxDx	2.68	2.73	2.78	2.475	2.50	2.525	-1.0 to -2.0	11.9

Notes for Table 3:
1. Lumileds maintains a tolerance of ±0.1V on forward voltage measurements.
2. Measured between 25°C and 85°C.

Absolute Maximum Ratings

Table 4. Absolute maximum ratings for LUXEON 2835 Commercial Visual Consistency

PARAMETER	MAXIMUM PERFORMANCE
DC Forward Current [1, 2]	300mA
Peak Pulsed Forward Current [1, 3]	480mA
LED Junction Temperature [1] (DC & Pulse)	125°C
ESD Sensitivity (ANSI/ESDA/JEDEC JS-001-2012)	Class 2
Operating Case Temperature [1]	-40°C to 105°C
LED Storage Temperature	-40°C to 105°C
Soldering Temperature	JEDEC 020c 260°C
Allowable Reflow Cycles	3
Reverse Voltage ($V_{reverse}$)	LUXEON LEDs are not designed to be driven in reverse bias

Notes for Table 4:
1. Proper current derating must be observed to maintain the junction temperature below the maximum allowable junction temperature.
2. Residual periodic variations due to power conversion from alternating current (AC) to direct current (DC), also called "ripple," are acceptable if the following conditions are met:
   – The frequency of the ripple current is 100Hz or higher
   – The average current for each cycle does not exceed the maximum allowable DC forward current
   – The maximum amplitude of the ripple does not exceed the maximum peak pulsed forward current
3. At ≤50% duty cycle with pulse width of 5ms.

Product Bin and Labeling Definitions

Decoding Product Bin Labeling

In the manufacturing of semiconductor products, there are variations in performance around the average values given in the technical datasheet. For this reason, Lumileds bins LED components for luminous flux, radiometric power, color point, peak wavelength, dominant wavelength and forward voltage.

LUXEON 2835 Commercial Visual Consistency LEDs are labeled using a 4- or 5-digit alphanumeric CAT code following the format below:

A or Ax B C D

Where:

A or Ax	–	designates luminous flux bin (example: L=29 to 31 lm, M=31 to 33 lm)
B C	–	designates correlated color bin (example: 7D, 7E, 7F, 7G, 7H for 3000K parts)
D	–	designates forward voltage bin (example: K=2.68 to 2.78V; 1=2.475 to 2.500V)

Therefore, a LUXEON 2835S 3V LED with a lumen range of 29 to 31 lm, color bin of 7D and a forward voltage range of 2.68 to 2.78V has the following CAT code:

L 7 D K

Luminous Flux Bins

Table 5. Luminous flux bin definitions for LUXEON 2835 Commercial Visual Consistency, T_j=25°C

PART	BIN	LUMINOUS FLUX [1] (lm)	
		MINIMUM	MAXIMUM
LUXEON 2835S 3V	G	21.0	23.0
	H	23.0	25.0
	J	25.0	27.0
	K	27.0	29.0
	L	29.0	31.0
	M	31.0	33.0
	N	33.0	35.0
	P	35.0	37.0
	Q	37.0	39.0
	R	39.0	41.0
	S	41.0	43.0
	T	43.0	45.0
	U	45.0	47.0

Notes for Table 5:
1. Lumileds maintains a tolerance of ±7.5% on luminous flux measurements.

Forward Voltage Bins

Table 6. Forward voltage bin definitions for LUXEON 2835 Commercial Visual Consistency at specified test current, T_j=25°C

PRODUCT	BIN	FORWARD VOLTAGE [1] (V_f)	
		MINIMUM	MAXIMUM
LUXEON 2835S 3V	K	2.68	2.78
LUXEON 2835S 3V (Deep Dimming)	1	2.475	2.500
	2	2.500	2.525

Notes for Table 6:
1. Lumileds maintains a tolerance of ±0.10V & ±0.05V (Deep Dimming) on forward voltage measurements

Color Bin Definition

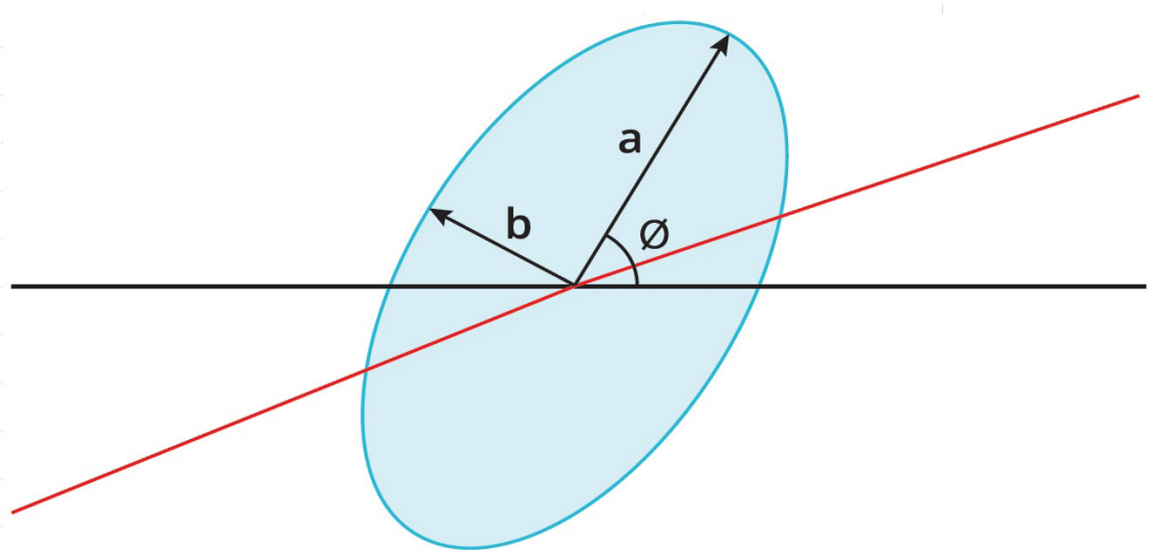


Figure 1a. 3- and 5-step MacAdam ellipse illustration for Tables 7a–7h

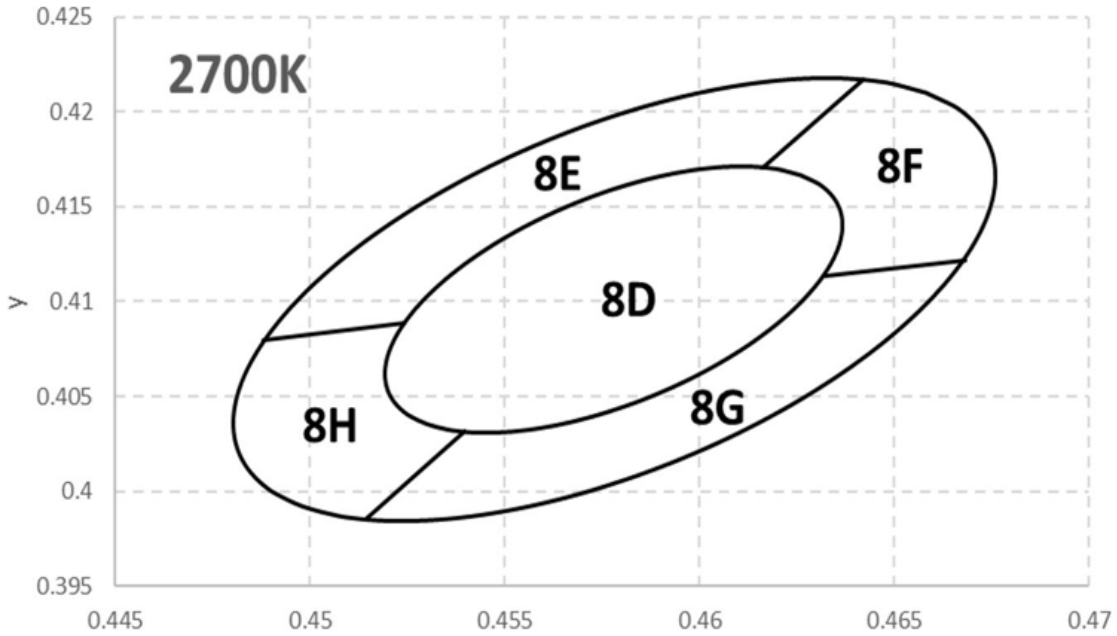


Figure 1b . 1/5th color bin structure for LUXEON 2835 Commercial Visual Consistency 2700K at specified test current and binning temperature of T_j=25°C

Table 7a-1. 3- and 5-step MacAdam ellipse color bin definitions for LUXEON 2835 Commercial Visual Consistency 2700K, at specified test and binning conditions

NOMINAL CCT	COLOR SPACE	CENTER POINT [1] (cx, cy)	MAJOR AXIS, a	MINOR AXIS, b	ELLIPSE ROTATION ANGLE, Θ
2700K	Single 3-step MacAdam ellipse	(0.4578, 0.4101)	0.00810	0.00420	53.70°
2700K	Single 5-step MacAdam ellipse	(0.4578, 0.4101)	0.01350	0.00700	53.70°

Table 7a-2. 4 quadrants definition for LUXEON 2835 Commercial Visual Consistency 2700K, at specified test and binning conditions

POINT	x	y
1	0.4642	0.4217
2	0.4488	0.4080
3	0.4514	0.3985
4	0.4668	0.4122
Center	0.4578	0.4101

Notes for Table 7a:
1. Lumileds maintains a tolerance of ±0.005 on x and y color coordinates in the CIE 1931 color space.

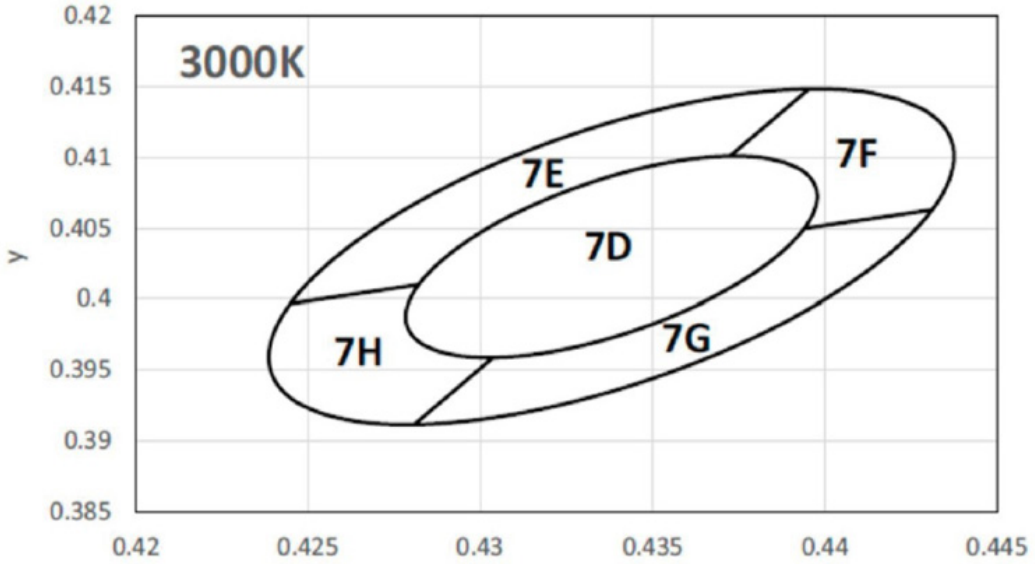


Figure 1c . 1/5th color bin structure for LUXEON 2835 Commercial Visual Consistency 3000K at specified test current and binning temperature of T_j=25°C

Table 7b-1. 3- and 5-step MacAdam ellipse color bin definitions for LUXEON 2835 Commercial Visual Consistency 3000K, at specified test and binning conditions

NOMINAL CCT	COLOR SPACE	CENTER POINT [1] (cx, cy)	MAJOR AXIS, a	MINOR AXIS, b	ELLIPSE ROTATION ANGLE, Θ
3000K	Single 3-step MacAdam ellipse	(0.4338, 0.4030)	0.00834	0.00408	53.22°
3000K	Single 5-step MacAdam ellipse	(0.4338, 0.4030)	0.01390	0.00680	53.22°

Table 7b-2. 4 quadrants definition for LUXEON 2835 Commercial Visual Consistency 3000K, at specified test and binning conditions

POINT	x	y
1	0.4395	0.4148
2	0.4245	0.3997
3	0.4282	0.3912
4	0.4431	0.4062
Center	0.4338	0.4030

Notes for Table 7b:
1. Lumileds maintains a tolerance of ±0.005 on x and y color coordinates in the CIE 1931 color space.

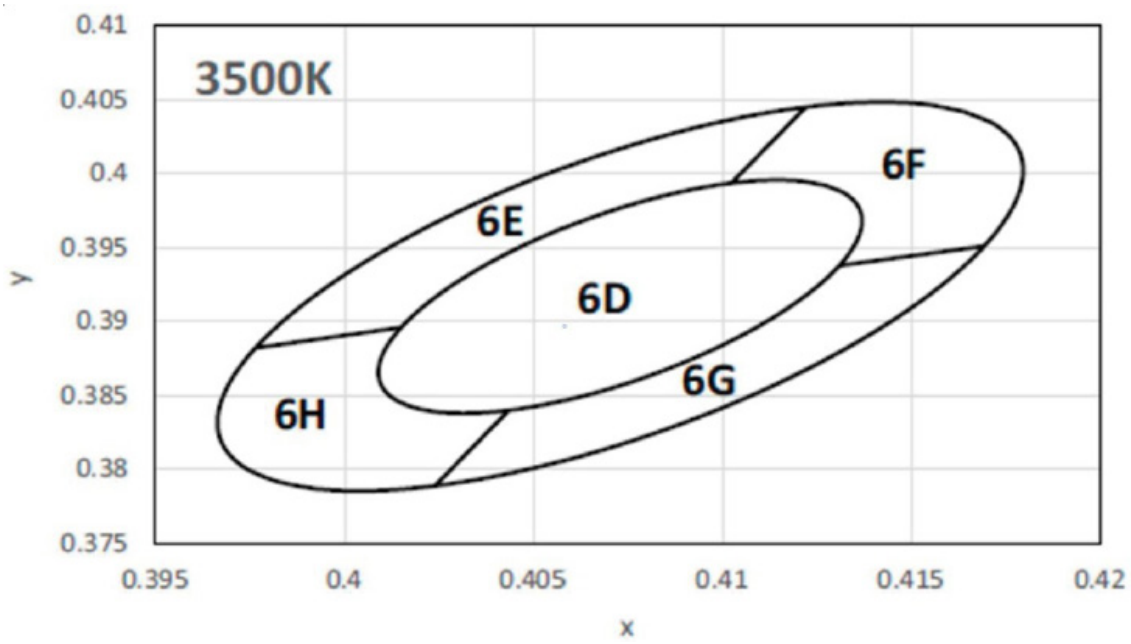


Figure 1d . 1/5th color bin structure for LUXEON 2835 Commercial Visual Consistency 3500K at specified test current and binning temperature of T_j=25°C

Table 7c-1. 3- and 5-step MacAdam ellipse color bin definitions for LUXEON 2835 Commercial Visual Consistency 3500K, at specified test and binning conditions

NOMINAL CCT	COLOR SPACE	CENTER POINT [1] (cx, cy)	MAJOR AXIS, a	MINOR AXIS, b	ELLIPSE ROTATION ANGLE, Θ
3500K	Single 3-step MacAdam ellipse	(0.4073, 0.3917)	0.00927	0.00414	54.00°
3500K	Single 5-step MacAdam ellipse	(0.4073, 0.3917)	0.01545	0.00690	54.00°

Table 7c-2. 4 quadrants definition for LUXEON 2835 Commercial Visual Consistency 3500K, at specified test and binning conditions

POINT	x	y
1	0.4122	0.4045
2	0.3976	0.3882
3	0.4024	0.3789
4	0.4169	0.3951
Center	0.4073	0.3917

Notes for Table 7c:
1. Lumileds maintains a tolerance of ±0.005 on x and y color coordinates in the CIE 1931 color space.

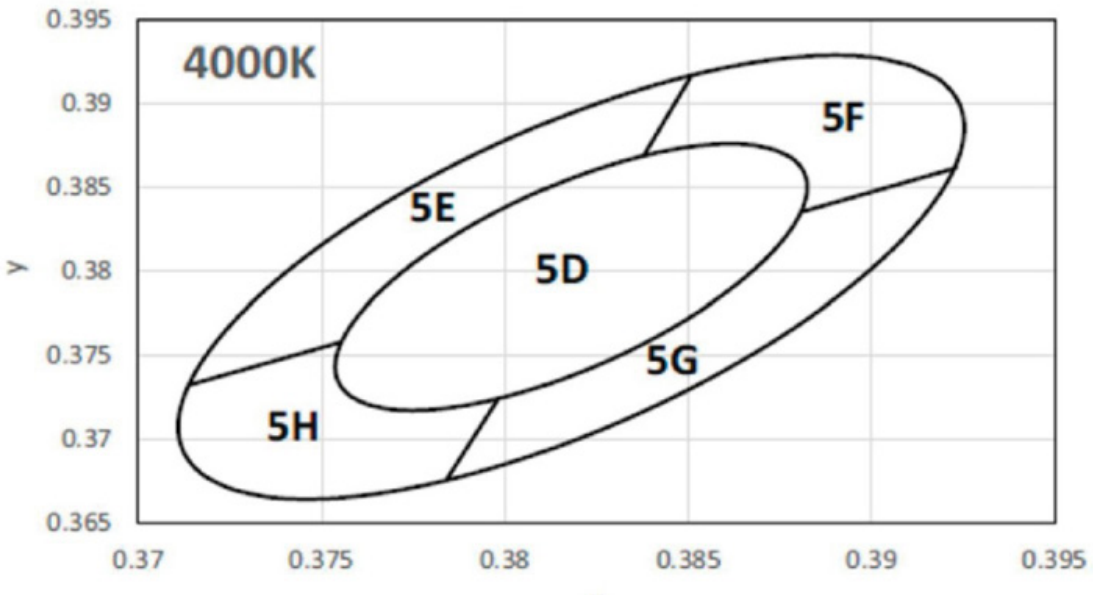


Figure 1e . 1/5th color bin structure for LUXEON 2835 Commercial Visual Consistency 4000K at specified test current and binning temperature of T_j=25°C

Table 7d-1. 3- and 5-step MacAdam ellipse color bin definitions for LUXEON 2835 Commercial Visual Consistency 4000K, at specified test and binning conditions

NOMINAL CCT	COLOR SPACE	CENTER POINT [1] (cx, cy)	MAJOR AXIS, a	MINOR AXIS, b	ELLIPSE ROTATION ANGLE, Θ
4000K	Single 3-step MacAdam ellipse	(0.3818, 0.3797)	0.00939	0.00402	53.72°
4000K	Single 5-step MacAdam ellipse	(0.3818, 0.3797)	0.01565	0.00670	53.72°

Table 7d-2. 4 quadrants definition for LUXEON 2835 Commercial Visual Consistency 4000K, at specified test and binning conditions

POINT	x	y
1	0.3851	0.3918
2	0.3714	0.3733
3	0.3784	0.3676
4	0.3923	0.3862
Center	0.3818	0.3797

Notes for Table 7d:
1. Lumileds maintains a tolerance of ±0.005 on x and y color coordinates in the CIE 1931 color space.

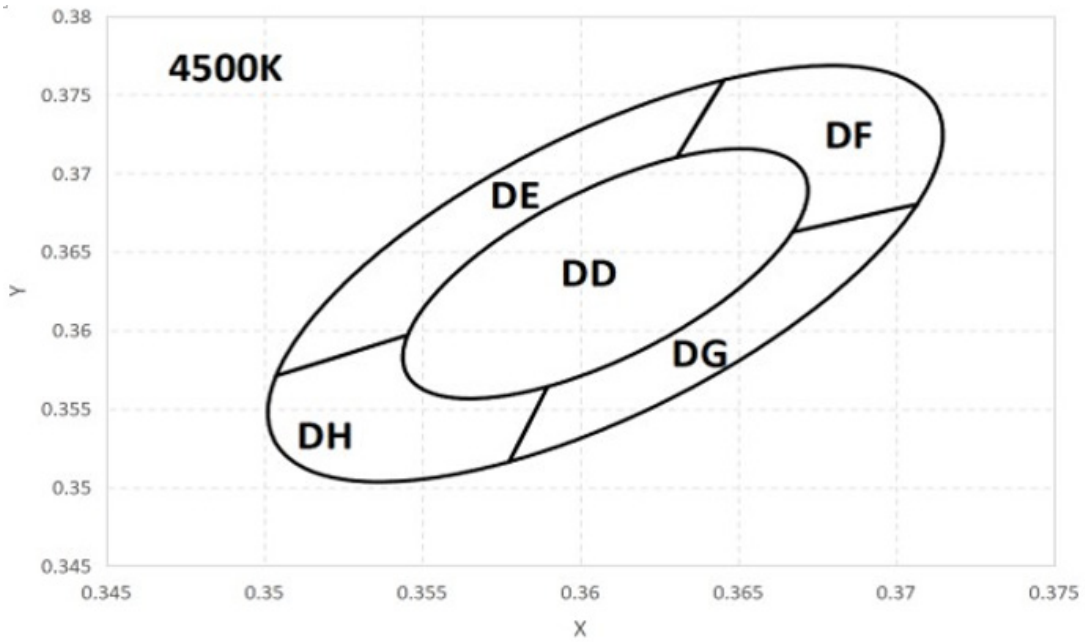


Figure 1f . 1/5th color bin structure for LUXEON 2835 Commercial Visual Consistency 4500K at specified test current and binning temperature of T_j=25°C

Table 7e-1. 3- and 5-step MacAdam ellipse color bin definitions for LUXEON 2835 Commercial Visual Consistency 4500K, at specified test and binning conditions

NOMINAL CCT	COLOR SPACE	CENTER POINT [1] (cx, cy)	MAJOR AXIS, a	MINOR AXIS, b	ELLIPSE ROTATION ANGLE, Θ
4500K	Single 3-step MacAdam ellipse	(0.3608, 0.3636)	0.00939	0.00404	54.00°
4500K	Single 5-step MacAdam ellipse	(0.3608, 0.3636)	0.01564	0.00673	54.00°

Table 7e-2. 4 quadrants definition for LUXEON 2835 Commercial Visual Consistency 4500K, at specified test and binning conditions

POINT	x	y
1	0.3656	0.3794
2	0.3483	0.3558
3	0.3569	0.3483
4	0.3733	0.3692
Center	0.3608	0.3636

Notes for Table 7e:
1. Lumileds maintains a tolerance of ±0.007 on x and y color coordinates in the CIE 1931 color space.

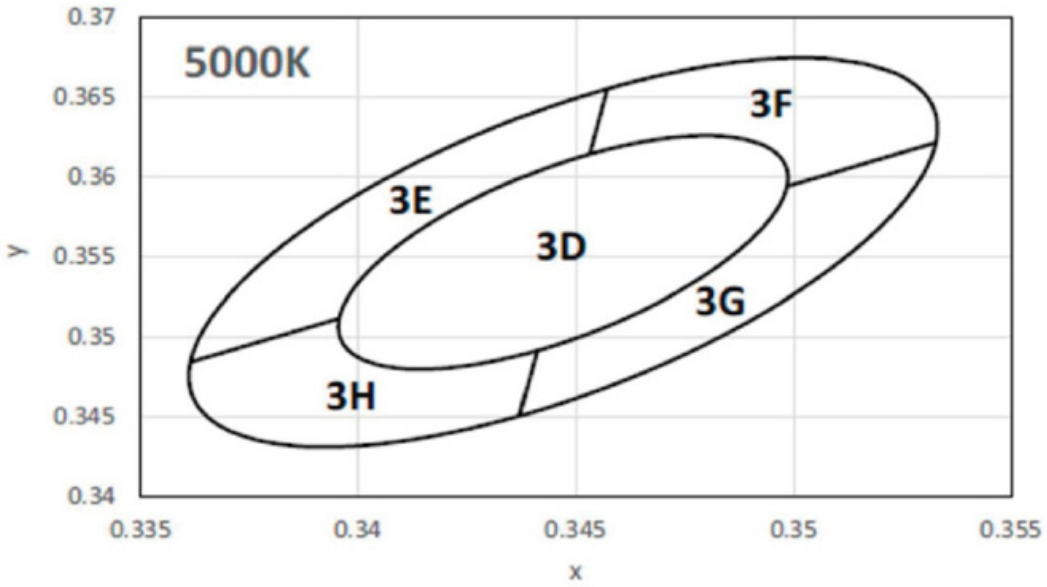


Figure 1g . 1/5th color bin structure for LUXEON 2835 Commercial Visual Consistency 5000K at specified test current and binning temperature of T_j=25°C

Table 7f-1. 3- and 5-step MacAdam ellipse color bin definitions for LUXEON 2835 Commercial Visual Consistency 5000K, at specified test and binning conditions

NOMINAL CCT	COLOR SPACE	CENTER POINT [1] (cx, cy)	MAJOR AXIS, a	MINOR AXIS, b	ELLIPSE ROTATION ANGLE, Θ
5000K	Single 3-step MacAdam ellipse	(0.3447, 0.3553)	0.00822	0.00354	59.62°
5000K	Single 5-step MacAdam ellipse	(0.3447, 0.3553)	0.01370	0.00590	59.62°

Table 7f-2. 4 quadrants definition for LUXEON 2835 Commercial Visual Consistency 5000K, at specified test and binning conditions

POINT	x	y
1	0.3457	0.3655
2	0.3361	0.3484
3	0.3439	0.3452
4	0.3533	0.3623
Center	0.3447	0.3553

Notes for Table 7f:
1. Lumileds maintains a tolerance of ±0.005 on x and y color coordinates in the CIE 1931 color space.

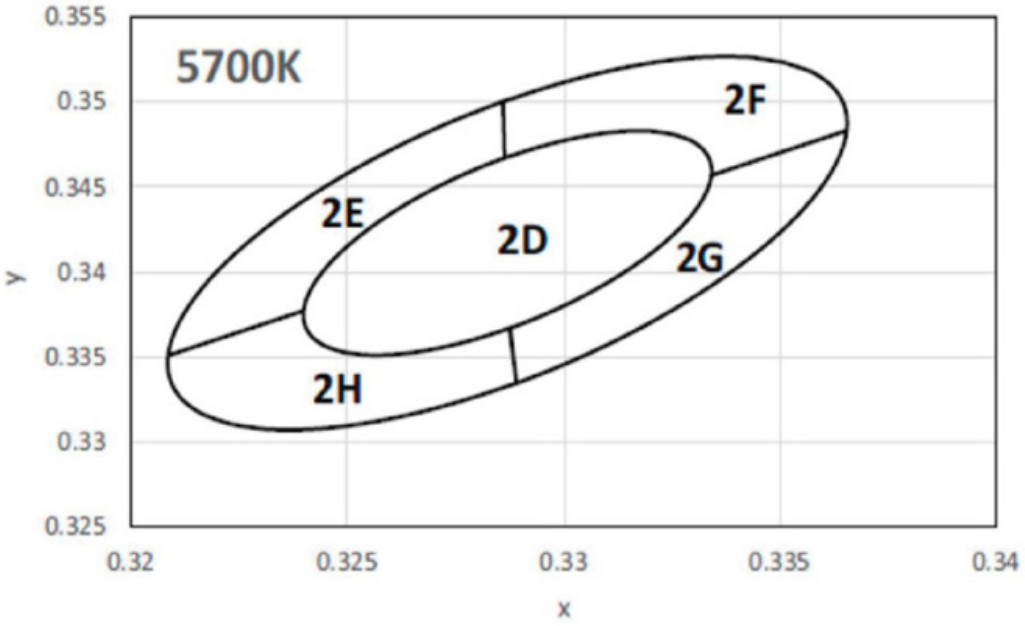


Figure 1h . 1/5th color bin structure for LUXEON 2835 Commercial Visual Consistency 5700K at specified test current and binning temperature of T_j=25°C

Table 7g-1. 3- and 5-step MacAdam ellipse color bin definitions for LUXEON 2835 Commercial Visual Consistency 5700K, at specified test and binning conditions

NOMINAL CCT	COLOR SPACE	CENTER POINT [1] (cx, cy)	MAJOR AXIS, a	MINOR AXIS, b	ELLIPSE ROTATION ANGLE, Θ
5700K	Single 3-step MacAdam ellipse	(0.3287, 0.3417)	0.00746	0.00320	59.09°
5700K	Single 5-step MacAdam ellipse	(0.3287, 0.3417)	0.01243	0.00533	59.09°

Table 7g-2. 4 quadrants definition for LUXEON 2835 Commercial Visual Consistency 5700K, at specified test and binning conditions

POINT	x	y
1	0.3286	0.3501
2	0.3209	0.3351
3	0.3289	0.3334
4	0.3365	0.3483
Center	0.3287	0.3417

Notes for Table 7g:
1. Lumileds maintains a tolerance of ±0.005 on x and y color coordinates in the CIE 1931 color space.

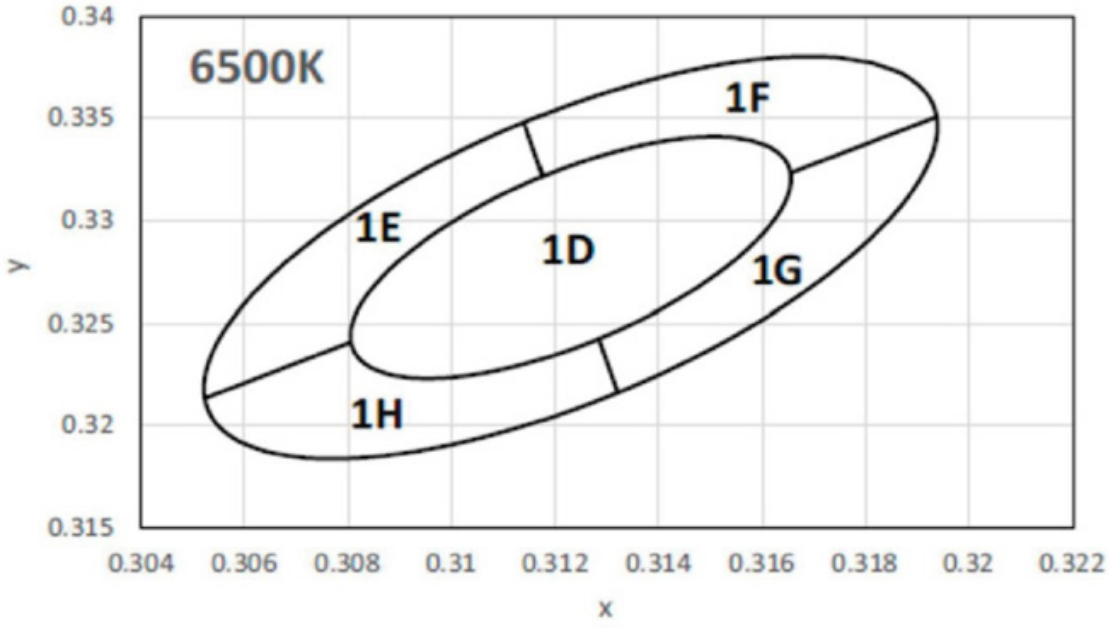


Figure 1i. 1/5th color bin structure for LUXEON 2835 Commercial Visual Consistency 6500K at specified test current and binning temperature of T_j=25°C

Table 7h-1. 3- and 5-step MacAdam ellipse color bin definitions for LUXEON 2835 Commercial Visual Consistency 6500K, at specified test and binning conditions

NOMINAL CCT	COLOR SPACE	CENTER POINT [1] (cx, cy)	MAJOR AXIS, a	MINOR AXIS, b	ELLIPSE ROTATION ANGLE, Θ
6500K	Single 3-step MacAdam ellipse	(0.3123, 0.3282)	0.00669	0.00285	58.57°
6500K	Single 5-step MacAdam ellipse	(0.3123, 0.3282)	0.01115	0.00475	58.57°

Table 7h-2. 4 quadrants definition for LUXEON 2835 Commercial Visual Consistency 6500K, at specified test and binning conditions

POINT	x	y
1	0.3114	0.3348
2	0.3052	0.3213
3	0.3132	0.3216
4	0.3194	0.3352
Center	0.3123	0.3282

Notes for Table 7h:
1. Lumileds maintains a tolerance of ±0.005 on x and y color coordinates in the CIE 1931 color space.

Characteristics Curves

Spectral Power Distribution Characteristics

80CRI

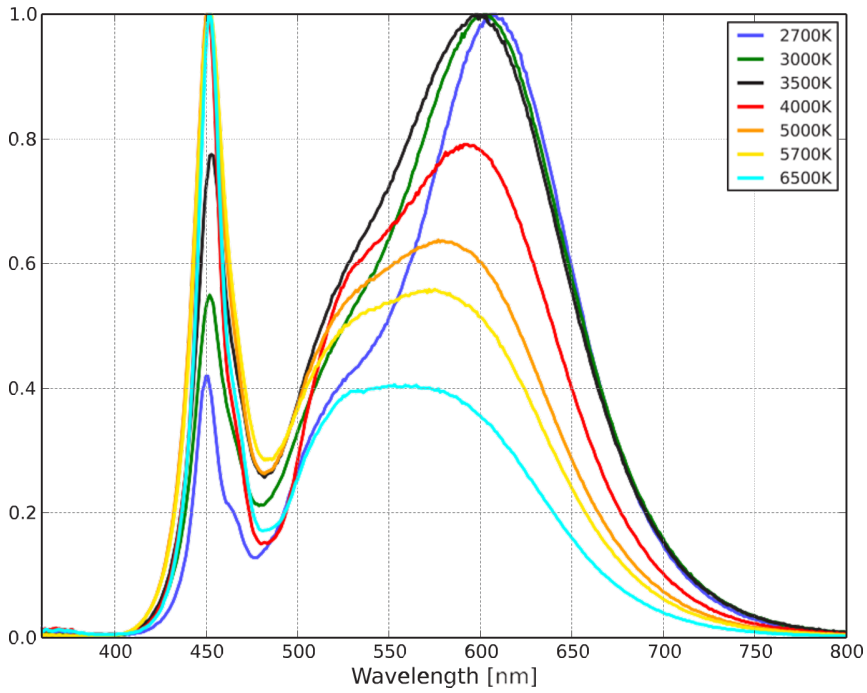


Figure 2a. Typical normalized power vs. wavelength for 80CRI LUXEON 2835 Commercial Visual Consistency at specified test current, T_j=25°C

90CRI

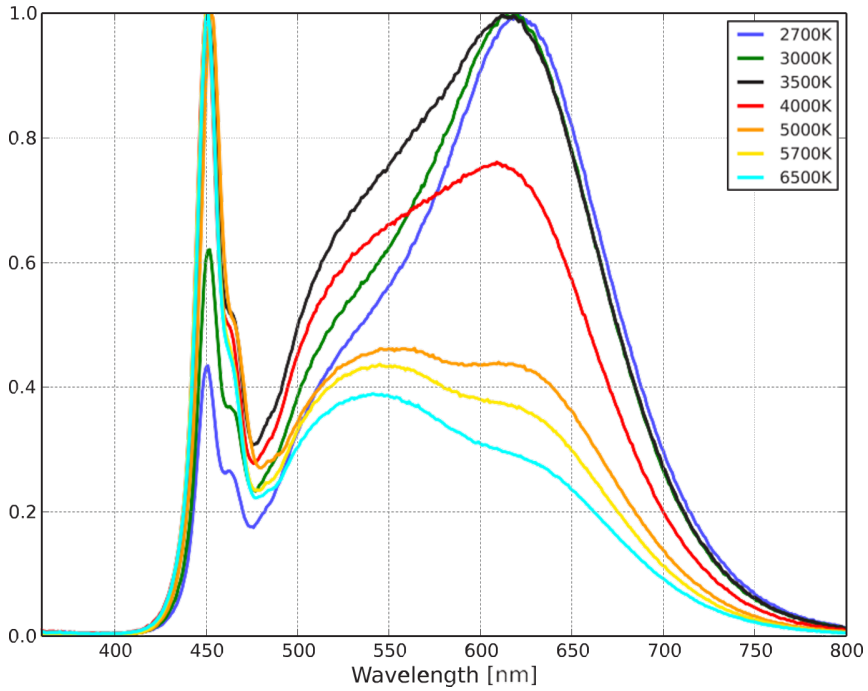


Figure 2b. Typical normalized power vs. wavelength for 90CRI LUXEON 2835 Commercial Visual Consistency at specified test current, T_j=25°C

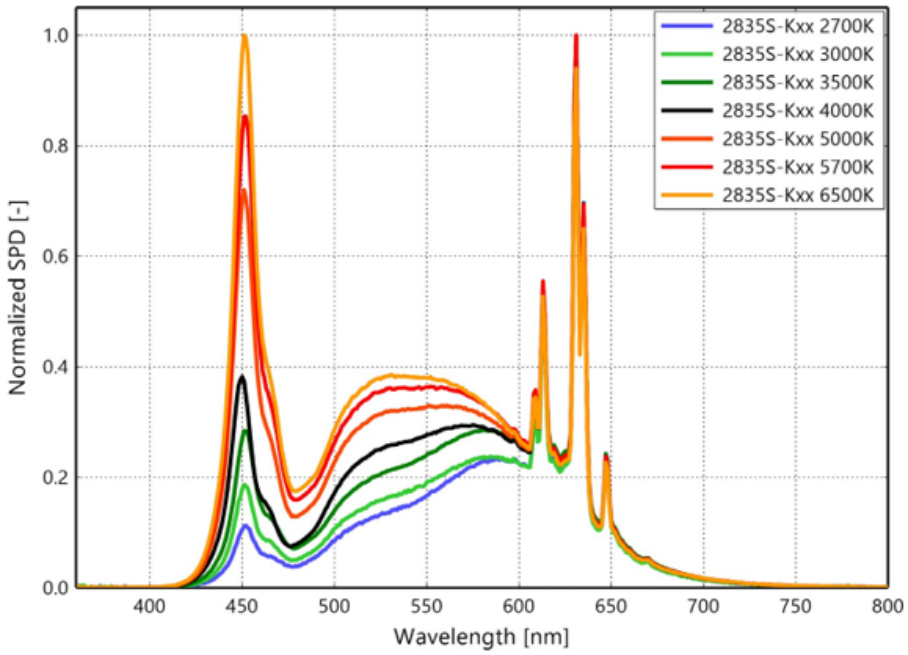


Figure 2c. Typical normalized power vs. wavelength for 90CRI LUXEON 2835 Commercial Visual Consistency ended with Kxx and associated parts at specified test current, T_j=25°C

Light Output Characteristics

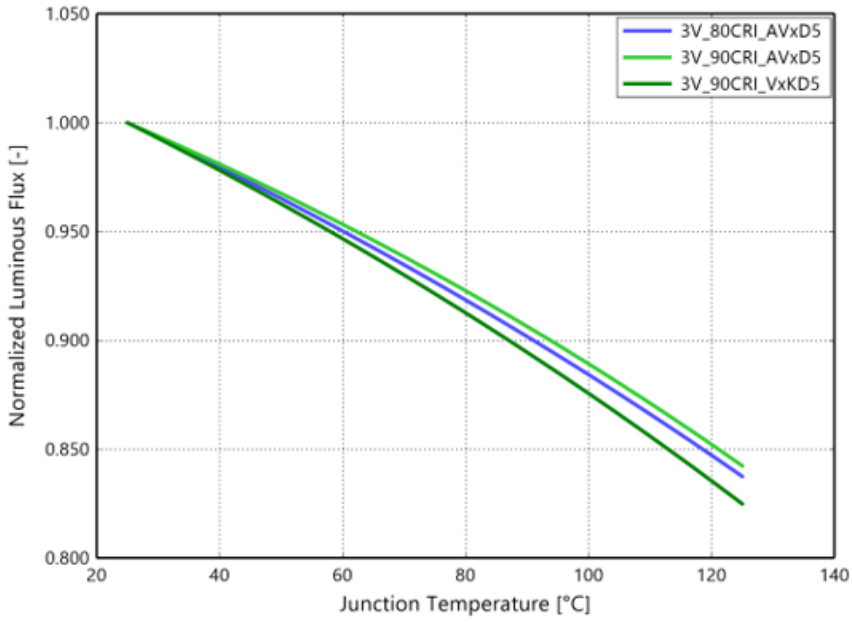


Figure 3a. Typical normalized luminous flux vs. junction temperature for LUXEON 2835S 3V Line at specified test current

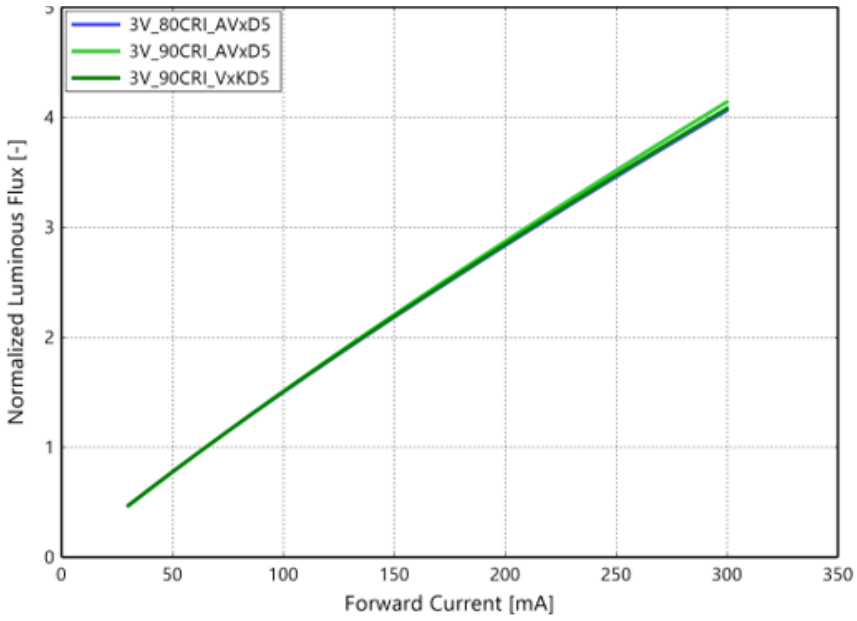


Figure 3b. Typical normalized luminous flux vs. forward current for LUXEON 2835S 3V at T_j=25°C

Forward Current Characteristics

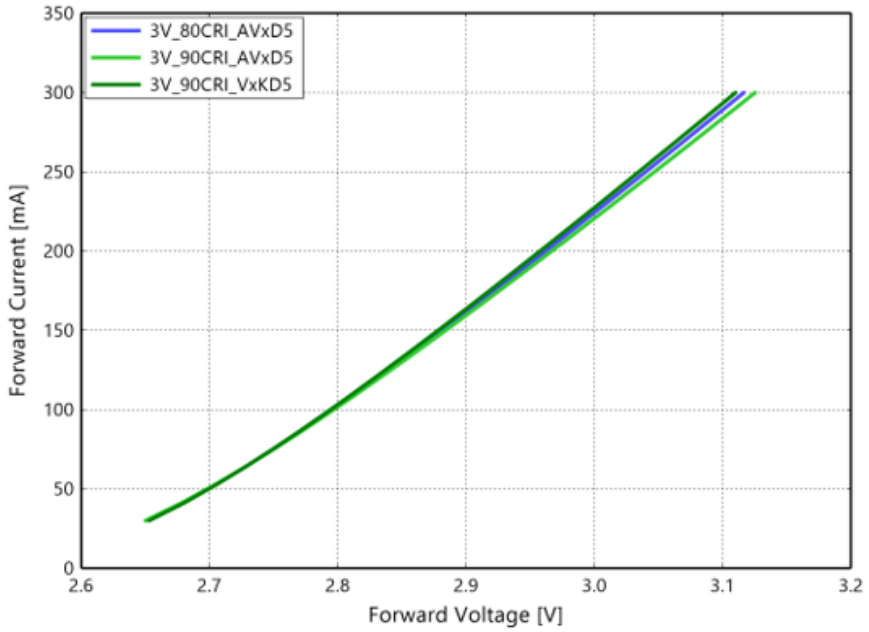


Figure 4a. Typical forward current vs. forward voltage for LUXEON 2835S 3V at T_j=25°C

Radiation Pattern Characteristics

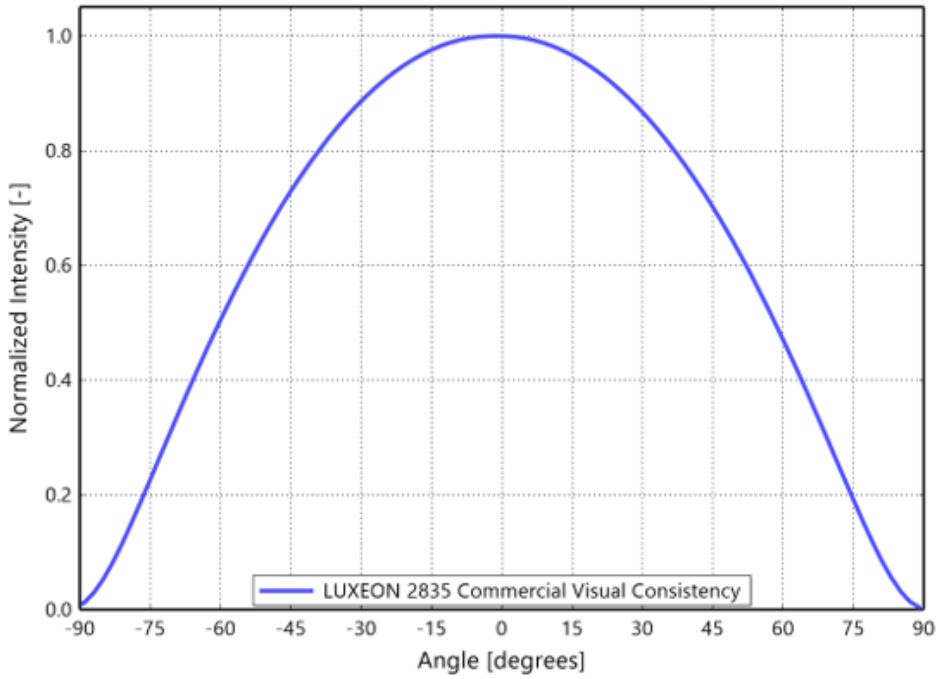


Figure 5. Typical radiation pattern for LUXEON 2835 Commercial Visual Consistency at test current, T_j=25°C

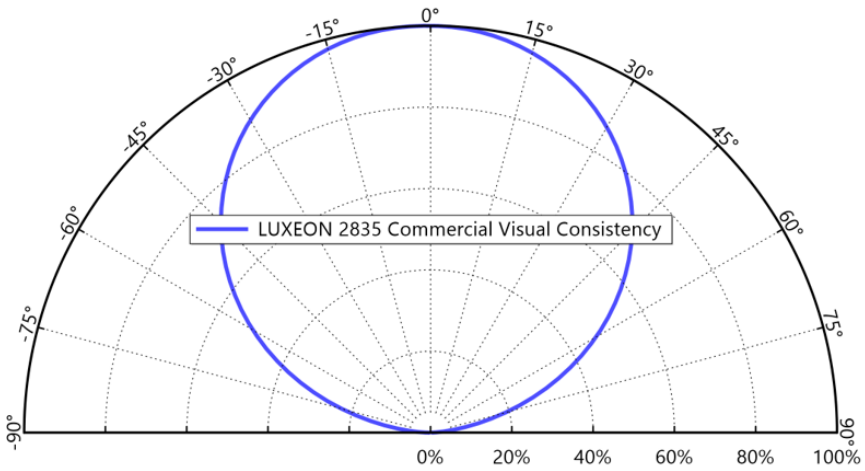


Figure 6. Typical polar radiation pattern for LUXEON 2835 Commercial Visual Consistency at test current, T_j=25°C

Mechanical Dimensions

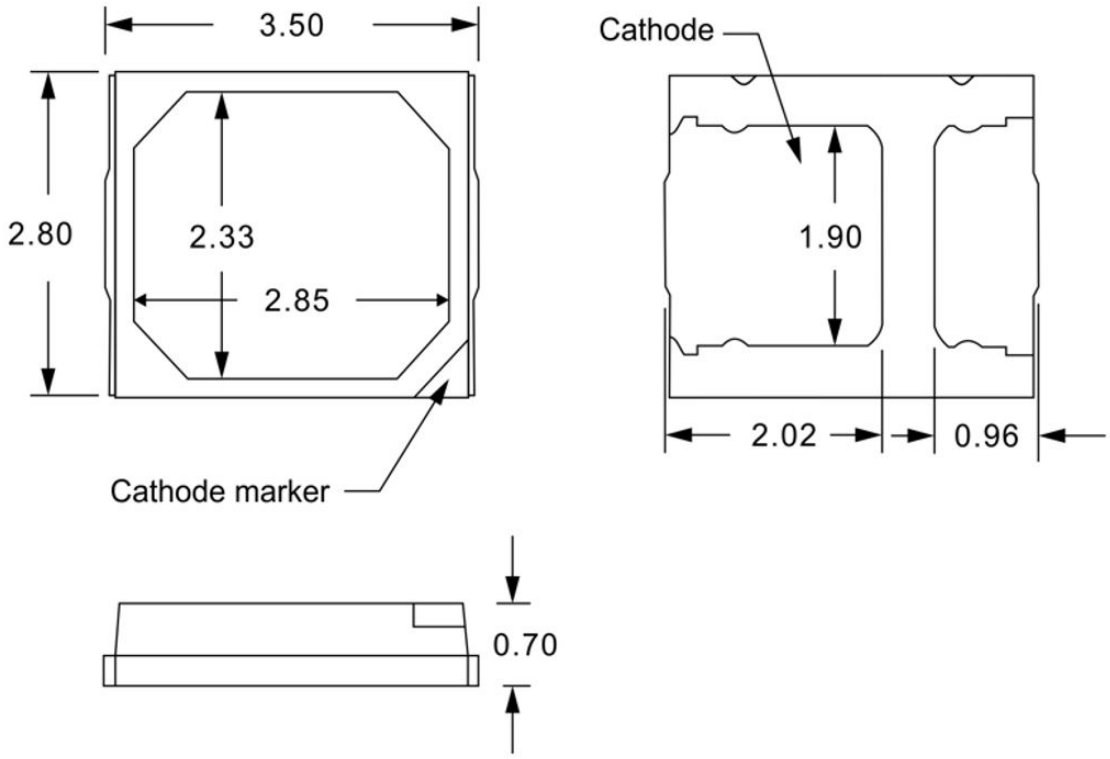


Figure 7. Mechanical dimensions for LUXEON 2835 Commercial Visual Consistency

Notes for Figure 7:
1. Drawings are not to scale.
2. All dimensions are in millimeters.
3. Tolerance: ±0.1mm.

Reflow Soldering Guidelines

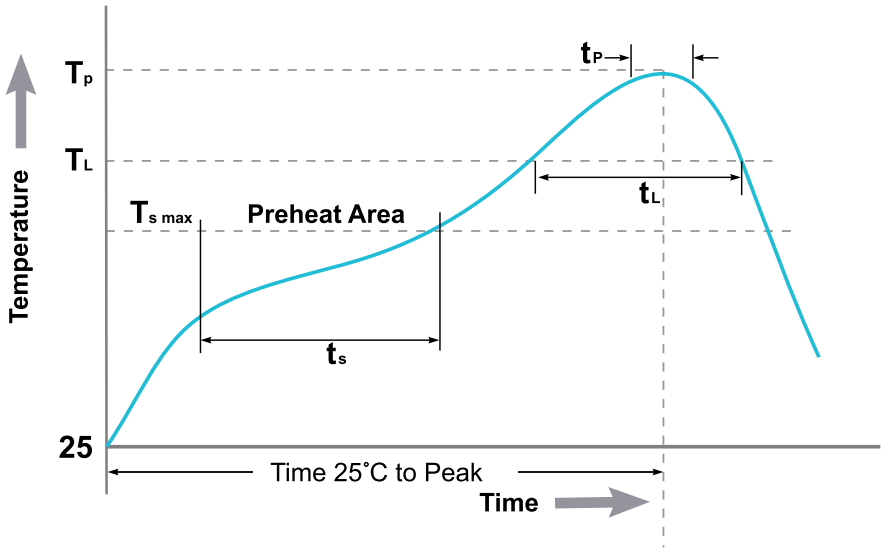


Figure 8. Visualization of the acceptable reflow temperature profile as specified in Table 8

Note for Figure 8:
1. This general guideline may not apply to all designs and configurations of reflow soldering equipment.

Table 8. Reflow profile characteristics for LUXEON 2835 Commercial Visual Consistency

PROFILE FEATURE	LEAD-FREE ASSEMBLY
Preheat Maximum Temperature (T_{smax})	180°C
Preheat Time (t_s)	120 seconds maximum
Ramp-Up Rate (T_{smax} to T_p)	5°C / second maximum
Liquidus Temperature (T_L)	220°C
Time Maintained Above Temperature T_L (t_L)	60 seconds maximum
Peak / Classification Temperature (T_p)	260°C
Time Within 5°C of Actual Peak Temperature (t_p)	10 seconds maximum
Time 25°C to Peak Temperature	3.5 minutes maximum

JEDEC Moisture Sensitivity

Table 9. Moisture sensitivity levels for LUXEON 2835 Commercial Visual Consistency

LEVEL	FLOOR LIFE		SOAK REQUIREMENTS STANDARD	
	TIME	CONDITIONS	TIME	CONDITIONS
3	168 Hours	≤30°C / 60% RH	192 Hours +5 / -0	30°C / 60% RH

Solder Pad Design

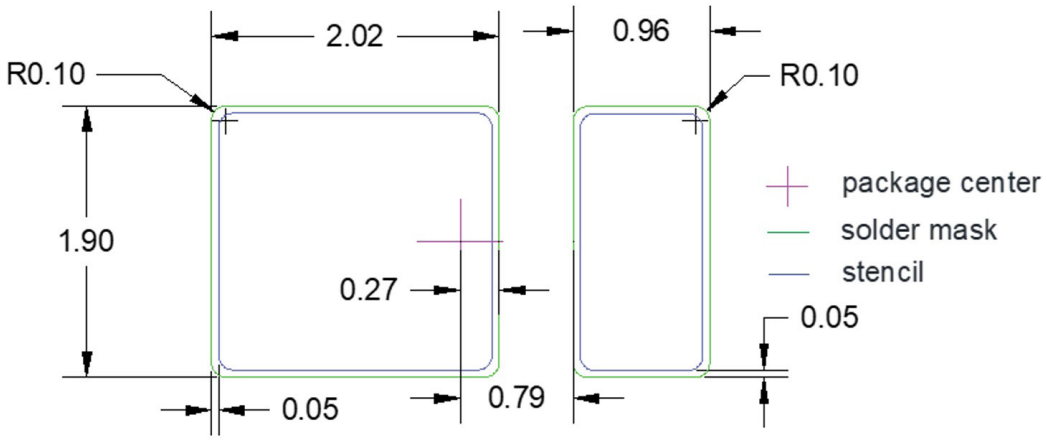


Figure 9. Recommended PCB solder pad layout for LUXEON 2835 Commercial Visual Consistency

Notes for Figure 9:
1. Drawings are not to scale.
2. All dimensions are in millimeters.

Packaging Information

Pocket Tape Dimensions

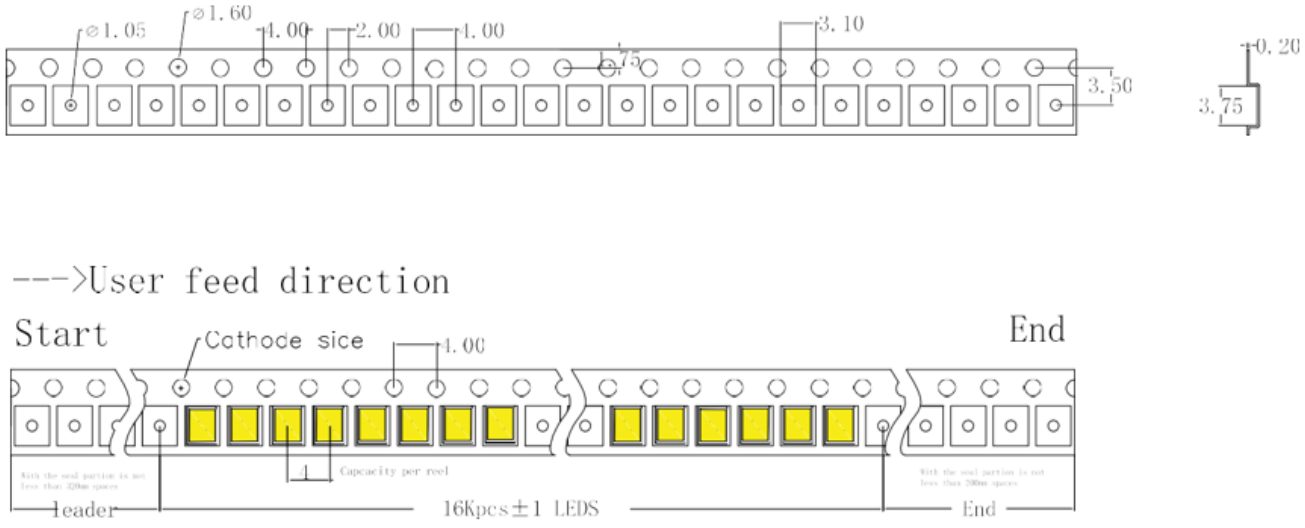
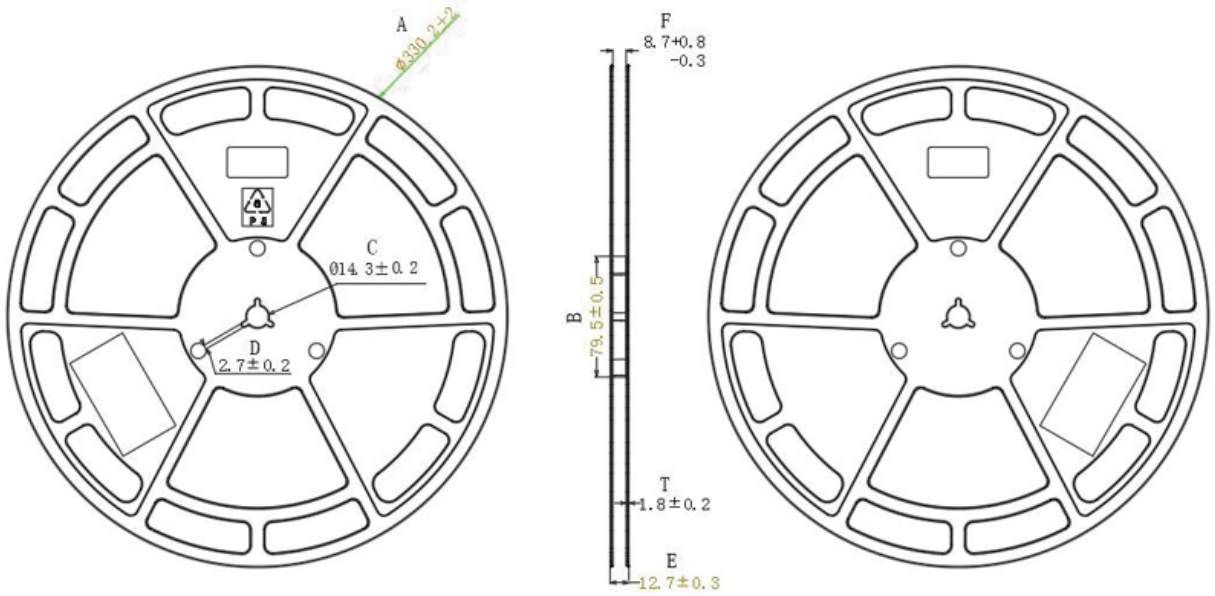


Figure 10. Pocket tape dimensions for LUXEON 2835 Commercial Visual Consistency

Notes for Figure 10:
1. Drawings are not to scale.
2. All dimensions are in millimeters.

Reel Dimensions



A±2	B±0.5	C±0.2	D±0.2	E±0.3	$F^{+0.8}_{-0.3}$	T±0.2
Ø330.2	Ø79.5	Ø14.3	2.7	12.7	8.7	1.8

Figure 11. Reel dimensions for LUXEON 2835 Commercial Visual Consistency

Notes for Figure 11:
1. Drawings are not to scale.
2. All dimensions are in millimeters.

About Lumileds

Lumileds is a global leader in LED and microLED technology, innovation, and solutions for the automotive, display, illumination, mobile, and other markets where light sources are essential. Our approximately 3,500 employees operate in over 15 countries and partner with our customers to deliver never before possible solutions for lighting, safety, and well-being.

To learn more about our lighting solutions, visit lumileds.com.