LUMILEDS

ILLUMINATION

LUXEON CoB Core Range Gen 6 and Gen 6 HE

Uniform, high efficacy and easy to design array

LUXEON CoB represents a new breakthrough for arrays. Due to its small Light Emitting Surface (LES) and industry-leading thermal resistance, LUXEON CoB is easy to work with, enabling simplified and less expensive luminaire designs. LUXEON CoBs are hot-tested at 85°C—real world operating conditions—which means additional testing can be minimized. LUXEON CoB LEDs are available in 3-step MacAdam ellipse, ensuring uniform optical performance in a wide range of applications.

FEATURES AND BENEFITS

- Highest flux densities with industry's smallest LES
- 3-step MacAdam ellipse color definition: *Freedom from Binning* for color consistency from luminaire to luminaire
- Up to 4x lower thermal resistance than competition, enabling smaller heatsinks and higher lumens
- Supported by a comprehensive optical, mechanical and electrical ecosystem

PRIMARY APPLICATIONS

- Spotlights
- Track Lights
- Downlights
- High Bay
- Low Bay
- Floodlights
- More...

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General Product Information

Product Test Conditions

LUXEON CoB Core Range LEDs are tested and binned with a DC drive current specified below at a junction temperature, T_j, of 85°C:

200mA	–	L2C5-AABB1202I060G
200mA	–	L2C5-AABB1202I090G
300mA	–	L2C5-AABB1203I090G
400mA	–	L2C5-AABB1204I090G
600mA	–	L2C5-AABB1205I130G
900mA	–	L2C5-AABB1208I150G
900mA	–	L2C5-AABB1210I150G
300mA	–	L2C5-AABB1208J150G
300mA	–	L2C5-AABB1210J150G
413mA	–	L2C5-AABB1211J190G

Part Number Nomenclature

Part numbers for LUXEON CoB Core Range follow the convention below:

L 2 C 5 – **A A B B C C C C D E E F G**

Where:

A A	–	designates nominal CCT (27=2700K, 30=3000K, 35=3500K, 40=4000K, 50=5000K)
B B	–	designates minimum CRI (90=90CRI)
C C C C	–	designates product configuration (examples: 1202, 1203, 1204, 1205, 1208, 1210)
D	–	designates options for product specification
E E	–	designates light emitting surface (LES) size (06=6.5mm, 09=9mm, 13=13mm, 15=15/16.2mm, 19=19.8mm)
F	–	designates options for product specification
G	–	designates SDCM (2=2-step MacAdam, 0=3-step MacAdam)

Therefore, the following part number is used for a LUXEON Core Range CoB 1208, Gen 6, 3000K 90CRI, 2 SDCM, with a 15mm LES:

L 2 C 5 – **3 0 9 0 1 2 0 8 I 1 5 0 2**

Environmental Compliance

Lumileds Holding B.V. is committed to providing environmentally friendly products to the solid-state lighting market. LUXEON CoB Core Range 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 1a. Product performance of LUXEON CoB Core Range Gen 6 at specified test current, T_j=85°C

LES [1] (mm)	NOMINAL CCT	MINIMUM CRI [2, 3, 4]	LUMINOUS FLUX [2] (lm)		TYPICAL LUMINOUS EFFICACY (lm/W)	TEST CURRENT (mA)	ENERGY EFFICIENCY CLASS [5]	PART NUMBER [6]
			MINIMUM	TYPICAL				
6.5	2700K	90	984	1093	161	200	D	L2C5-27901202I060x
6.5	3000K	90	978	1087	160	200	D	L2C5-30901202I060x
6.5	3500K	90	994	1105	163	200	D	L2C5-35901202I060x
6.5	4000K	90	1007	1119	165	200	D	L2C5-40901202I060x
6.5	5000K	90	1012	1124	166	200	D	L2C5-50901202I060x
9	2700K	90	1013	1126	166	200	D	L2C5-27901202I090x
9	3000K	90	1008	1120	165	200	D	L2C5-30901202I090x
9	3500K	90	1024	1138	168	200	D	L2C5-35901202I090x
9	4000K	90	1037	1152	170	200	D	L2C5-40901202I090x
9	5000K	90	1042	1158	171	200	D	L2C5-50901202I090x
9	2700K	90	1466	1628	160	300	D	L2C5-27901203I090x
9	3000K	90	1458	1620	159	300	D	L2C5-30901203I090x
9	3500K	90	1481	1646	162	300	D	L2C5-35901203I090x
9	4000K	90	1500	1667	164	300	D	L2C5-40901203I090x
9	5000K	90	1508	1675	165	300	D	L2C5-50901203I090x
9	2700K	90	1948	2164	160	400	D	L2C5-27901204I090x
9	3000K	90	1937	2152	159	400	D	L2C5-30901204I090x
9	3500K	90	1968	2187	161	400	D	L2C5-35901204I090x
9	4000K	90	1993	2215	163	400	D	L2C5-40901204I090x
9	5000K	90	2004	2226	164	400	D	L2C5-50901204I090x
13	2700K	90	2857	3174	153	600	D	L2C5-27901205I130x
13	3000K	90	2921	3245	157	600	D	L2C5-30901205I130x
13	3500K	90	3009	3343	162	600	D	L2C5-35901205I130x
13	4000K	90	3083	3426	165	600	D	L2C5-40901205I130x
13	5000K	90	3025	3362	162	600	D	L2C5-50901205I130x
15	2700K	90	4289	4766	155	900	D	L2C5-27901208I150x
15	3000K	90	4485	4983	162	900	D	L2C5-30901208I150x
15	3500K	90	4526	5029	163	900	D	L2C5-35901208I150x
15	4000K	90	4625	5139	167	900	D	L2C5-40901208I150x
15	5000K	90	4552	5057	164	900	D	L2C5-50901208I150x
15	2700K	90	4395	4883	161	900	D	L2C5-27901210I150x
15	3000K	90	4459	4954	164	900	D	L2C5-30901210I150x
15	3500K	90	4538	5042	167	900	D	L2C5-35901210I150x
15	4000K	90	4672	5191	172	900	D	L2C5-40901210I150x
15	5000K	90	4650	5167	171	900	D	L2C5-50901210I150x

Notes for Table 1a:
1. Light Emitting Surface (LES) is the inner diameter (phosphor area) inside the dam.
2. Lumileds maintains a tolerance of ±2 on CRI and ±6.5% on luminous flux measurements.
3. Typical CRI is approximately 2 points higher than the minimum CRI specified, but this is not guaranteed.
4. R9 value of 90CRI products is >50.
5. Energy efficiency class as specified in Commission Delegated Regulation (EU) 2019/2015. The available range of energy efficiency classes is A-G.
6. Part number ends with "x" designates SDCM available in both 2-step (x=2) and 3-step (x=0) MacAdam.

Table 1b. Product performance of LUXEON CoB Core Range Gen 6 PW at specified test current, T_j=85ºC

LES [1] (mm)	NOMINAL CCT	MINIMUM CRI [2, 3, 4]	LUMINOUS FLUX [2] (lm)		TYPICAL LUMINOUS EFFICACY (lm/W)	TEST CURRENT (mA)	ENERGY EFFICIENCY CLASS [5]	PART NUMBER [6]
			MINIMUM	TYPICAL				
6.5	3000K	90	961	1068	158	200	D	L2C5-30901202I06Px
6.5	3500K	90	971	1078	159	200	D	L2C5-35901202I06Px
6.5	4000K	90	978	1086	160	200	D	L2C5-40901202I06Px
9	3000K	90	985	1095	161	200	D	L2C5-30901202I09Px
9	3500K	90	997	1108	163	200	D	L2C5-35901202I09Px
9	4000K	90	1007	1118	165	200	D	L2C5-40901202I09Px
9	3000K	90	1453	1614	159	300	D	L2C5-30901203I09Px
9	3500K	90	1458	1620	159	300	D	L2C5-35901203I09Px
9	4000K	90	1459	1622	159	300	D	L2C5-40901203I09Px
9	3000K	90	1894	2104	155	400	D	L2C5-30901204I09Px
9	3500K	90	1917	2130	157	400	D	L2C5-35901204I09Px
9	4000K	90	1935	2150	159	400	D	L2C5-40901204I09Px
13	3000K	90	2863	3182	154	600	D	L2C5-30901205I13Px
13	3500K	90	2916	3240	157	600	D	L2C5-35901205I13Px
13	4000K	90	2967	3296	159	600	D	L2C5-40901205I13Px
15	3000K	90	4325	4805	156	900	D	L2C5-30901208I15Px
15	3500K	90	4344	4826	157	900	D	L2C5-35901208I15Px
15	4000K	90	4508	5009	163	900	D	L2C5-40901208I15Px
15	3000K	90	4369	4854	161	900	D	L2C5-30901210I15Px
15	3500K	90	4460	4955	164	900	D	L2C5-35901210I15Px
15	4000K	90	4500	5000	165	900	D	L2C5-40901210I15Px

Notes for Table 1b:
1. Light Emitting Surface (LES) is the inner diameter (phosphor area) inside the dam.
2. Lumileds maintains a tolerance of ±2 on CRI and ±6.5% on luminous flux measurements.
3. Typical CRI is approximately 2 points higher than the minimum CRI specified, but this is not guaranteed.
4. R9 value of 90CRI products is >50.
5. Energy efficiency class as specified in Commission Delegated Regulation (EU) 2019/2015. The available range of energy efficiency classes is A-G.
6. Part number ends with "x" designates SDCM available in both 2-step (x=2) and 3-step (x=0) MacAdam.

Table 2a. Product performance of LUXEON CoB Core Range Gen 6 HE at specified test current, T_j=50ºC

LES [1] (mm)	NOMINAL CCT	MINIMUM CRI [2, 3, 4]	LUMINOUS FLUX [2] (lm)		TYPICAL LUMINOUS EFFICACY (lm/W)	TEST CURRENT (mA)	ENERGY EFFICIENCY CLASS [5]	PART NUMBER [6]
			MINIMUM	TYPICAL				
16.2	2700K	90	1710	1900	195	300	C	L2C5-27901208J150x
16.2	3000K	90	1762	1958	201	300	B	L2C5-30901208J150x
16.2	3500K	90	1787	1985	204	300	B	L2C5-35901208J150x
16.2	4000K	90	1809	2010	206	300	B	L2C5-40901208J150x
16.2	5000K	90	1809	2010	206	300	B	L2C5-50901208J150x
16.2	2700K	90	1710	1900	197	300	C	L2C5-27901210J150x
16.2	3000K	90	1762	1958	203	300	B	L2C5-30901210J150x
16.2	3500K	90	1787	1985	205	300	B	L2C5-35901210J150x
16.2	4000K	90	1809	2010	208	300	B	L2C5-40901210J150x
16.2	5000K	90	1809	2010	208	300	B	L2C5-50901210J150x
19.8	2700K	90	2362	2624	196	413	C	L2C5-27901211J190x
19.8	3000K	90	2435	2705	202	413	B	L2C5-30901211J190x
19.8	3500K	90	2463	2737	204	413	B	L2C5-35901211J190x
19.8	4000K	90	2496	2773	207	413	B	L2C5-40901211J190x
19.8	5000K	90	2496	2773	207	413	B	L2C5-50901211J190x

Notes for Table 2a:
1. Light Emitting Surface (LES) is the inner diameter (phosphor area) inside the dam.
2. Lumileds maintains a tolerance of ±2 on CRI and ±6.5% on luminous flux measurements.
3. Typical CRI is approximately 2 points higher than the minimum CRI specified, but this is not guaranteed.
4. R9 value of 90CRI products is >50.
5. Energy efficiency class as specified in Commission Delegated Regulation (EU) 2019/2015. The available range of energy efficiency classes is A-G.
6. Part number ends with "x" designates SDCM available in both 2-step (x=2) and 3-step (x=0) MacAdam.

Table 2b. Product performance of LUXEON CoB Core Range Gen 6 HE PW at specified test current, T_j=50ºC

LES [1] (mm)	NOMINAL CCT	MINIMUM CRI [2, 3, 4]	LUMINOUS FLUX [2] (lm)		TYPICAL LUMINOUS EFFICACY (lm/W)	TEST CURRENT (mA)	ENERGY EFFICIENCY CLASS [5]	PART NUMBER [6]
			MINIMUM	TYPICAL				
16.2	3000K	90	1753	1948	200	300	B	L2C5-30901208J15Px
16.2	3500K	90	1764	1960	201	300	B	L2C5-35901208J15Px
16.2	4000K	90	1787	1985	204	300	B	L2C5-40901208J15Px
16.2	3000K	90	1753	1948	202	300	B	L2C5-30901210J15Px
16.2	3500K	90	1764	1960	203	300	B	L2C5-35901210J15Px
16.2	4000K	90	1787	1985	205	300	B	L2C5-40901210J15Px
19.8	3000K	90	2412	2680	200	413	B	L2C5-30901211J19Px
19.8	3500K	90	2426	2695	201	413	B	L2C5-35901211J19Px
19.8	4000K	90	2436	2707	202	413	B	L2C5-40901211J19Px

Notes for Table 2b:
1. Light Emitting Surface (LES) is the inner diameter (phosphor area) inside the dam.
2. Lumileds maintains a tolerance of ±2 on CRI and ±6.5% on luminous flux measurements.
3. Typical CRI is approximately 2 points higher than the minimum CRI specified, but this is not guaranteed.
4. R9 value of 90CRI products is >50.
5. Energy efficiency class as specified in Commission Delegated Regulation (EU) 2019/2015. The available range of energy efficiency classes is A-G.
6. Part number ends with "x" designates SDCM available in both 2-step (x=2) and 3-step (x=0) MacAdam.

Optical Characteristics

Table 3. Optical characteristics for LUXEON CoB Core Range at specified test current, T_j=85°C

PART NUMBER	TYPICAL TOTAL INCLUDED ANGLE [1]	TYPICAL VIEWING ANGLE [2]
L2C5-xxxxxxxxlxxxx	135°	115°
L2C5-xxxxxxxxJxxxx	135°	115°

Notes for Table 3:
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 4a. Electrical and thermal characteristics for LUXEON CoB Core Range Gen 6 and Gen 6 PW at specified test current

PART NUMBER	FORWARD VOLTAGE [1] (V_f)			TYPICAL TEMPERATURE COEFFICIENT OF FORWARD VOLTAGE [2] (mV/°C)	TYPICAL THERMAL RESISTANCE—JUNCTION TO CASE [3] (°C/W)
	MINIMUM	TYPICAL	MAXIMUM		
L2C5-xxxx1202I06xx	31.2	33.9	36.6	-16	0.78
L2C5-xxxx1202I09xx	31.2	33.9	36.6	-16	0.78
L2C5-xxxx1203I09xx	31.2	33.9	36.6	-16	0.60
L2C5-xxxx1204I09xx	31.2	33.9	36.6	-16	0.43
L2C5-xxxx1205I13xx	31.7	34.5	37.3	-16	0.26
L2C5-xxxx1208I15xx	31.5	34.2	36.9	-16	0.20
L2C5-xxxx1210I15xx	30.9	33.6	36.3	-16	0.18

Notes for Table 4a:
1. Lumileds maintains a tolerance of ±0.06V on forward voltage measurements.
2. Measured between 25°C and 85°C.
3. Thermal resistance is measured between junction and the bottom of the LUXEON CoB substrate.

Table 4b. Electrical and thermal characteristics for LUXEON CoB Core Range Gen 6 HE and Gen 6 HE PW at specified test current

PART NUMBER	FORWARD VOLTAGE [1] (V_f)			TYPICAL TEMPERATURE COEFFICIENT OF FORWARD VOLTAGE [2] (mV/°C)	TYPICAL THERMAL RESISTANCE—JUNCTION TO CASE [3] (°C/W)
	MINIMUM	TYPICAL	MAXIMUM		
L2C5-xxxx1208J15xx	29.9	32.5	35.1	-11	0.16
L2C5-xxxx1210J15xx	29.6	32.2	34.8	-11	0.12
L2C5-xxxx1211J19xx	29.9	32.5	35.1	-11	0.10

Notes for Table 4b:
1. Lumileds maintains a tolerance of ±0.06V on forward voltage measurements.
2. Measured between 25°C and 85°C.
3. Thermal resistance is measured between junction and the bottom of the LUXEON CoB substrate.

Absolute Maximum Ratings

Table 5. Absolute maximum ratings for LUXEON CoB Core Range Gen 6 and Gen 6 HE

PARAMETER	GEN 6, GEN 6 PW	GEN 6 HE, GEN 6 HE PW
DC Forward Current [1,2]	2x typical test current	4x typical test current
LED Junction Temperature [1] (DC & Pulse)	125°C	
ESD Sensitivity (ANSI/ESDA/JEDEC JS-001-2012)	Class 3B	
Operating Case Temperature [1]	-40°C to 105°C	
LED Storage Temperature	-40°C to 120°C	
Reverse Voltage ($V_{reverse}$)	LUXEON LEDs are not designed to be driven in reverse bias	

Notes for Table 5:
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 20% of the maximum allowable DC forward current

Characteristic Curves

Spectral Power Distribution Characteristics

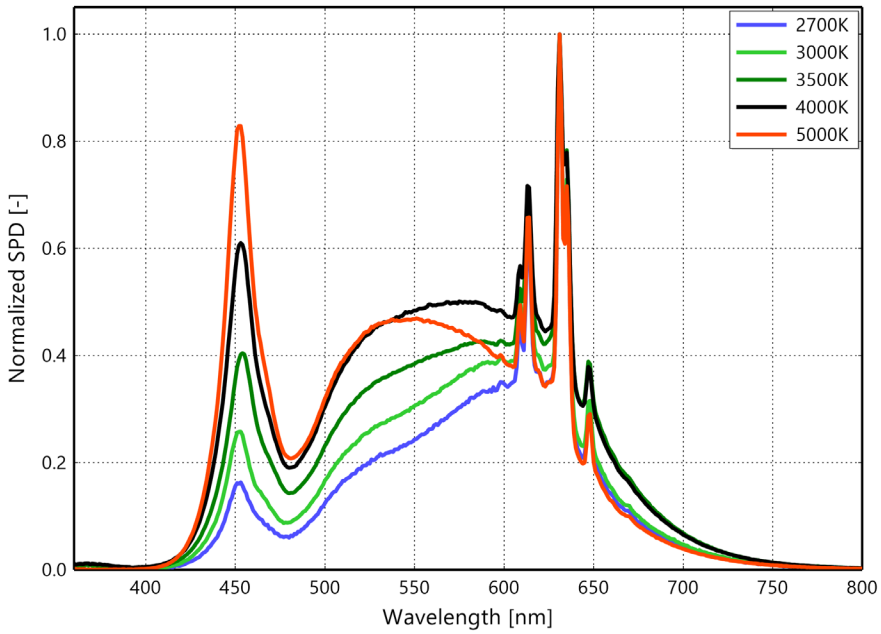


Figure 1a. Typical normalized power vs. wavelength for L2C5-xx90xxxxIxxxx at specified test current, T_j=85°C.

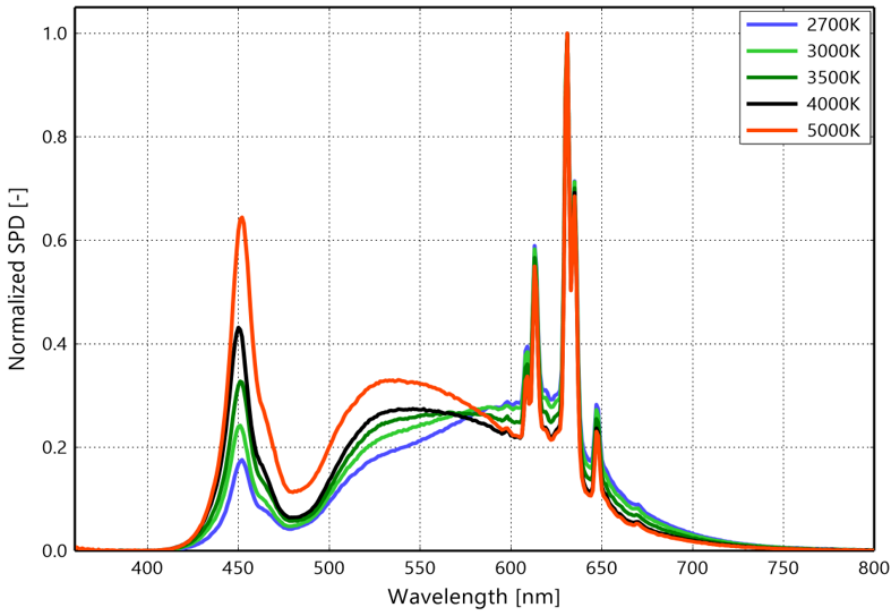


Figure 1b. Typical normalized power vs. wavelength for L2C5-xx90xxxxJxxxx at specified test current, T_j=50°C.

Light Output Characteristics

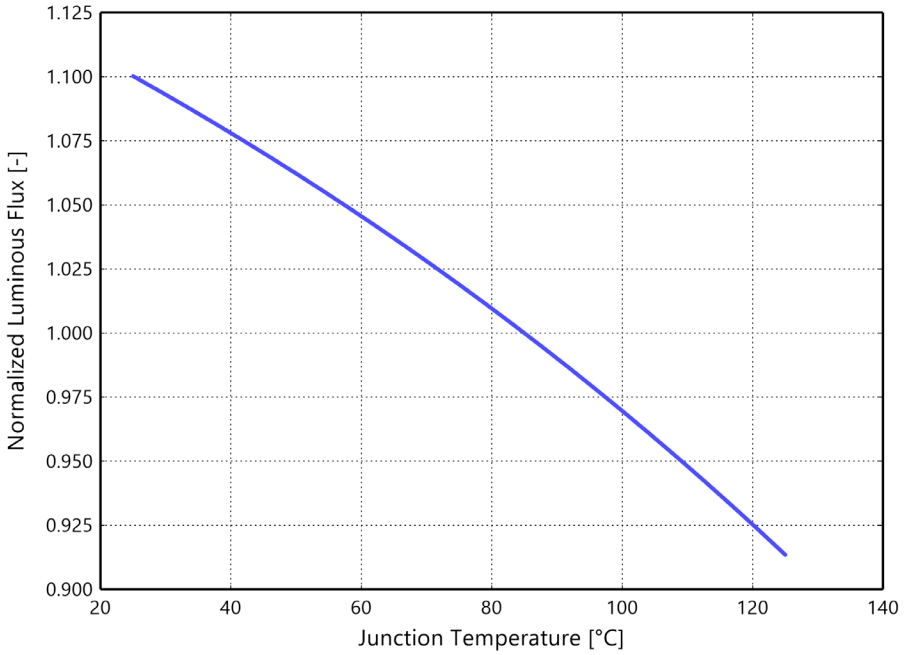


Figure 2a. Typical normalized light output vs. junction temperature for L2C5-xxxxxxxxlxxxx at specified test current

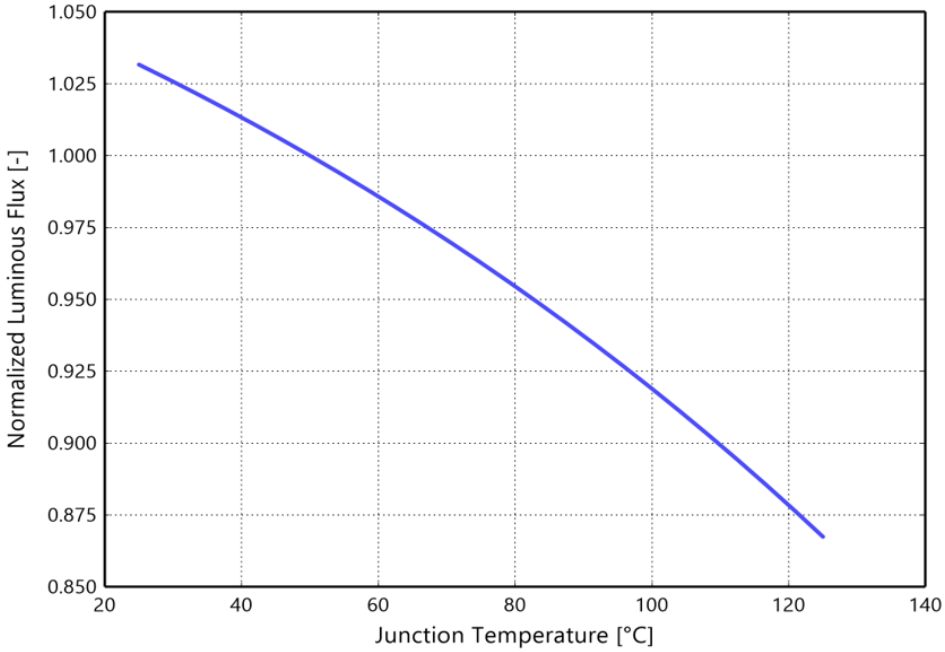


Figure 2b. Typical normalized light output vs. junction temperature for L2C5-xxxxxxxxJxxxx at specified test current

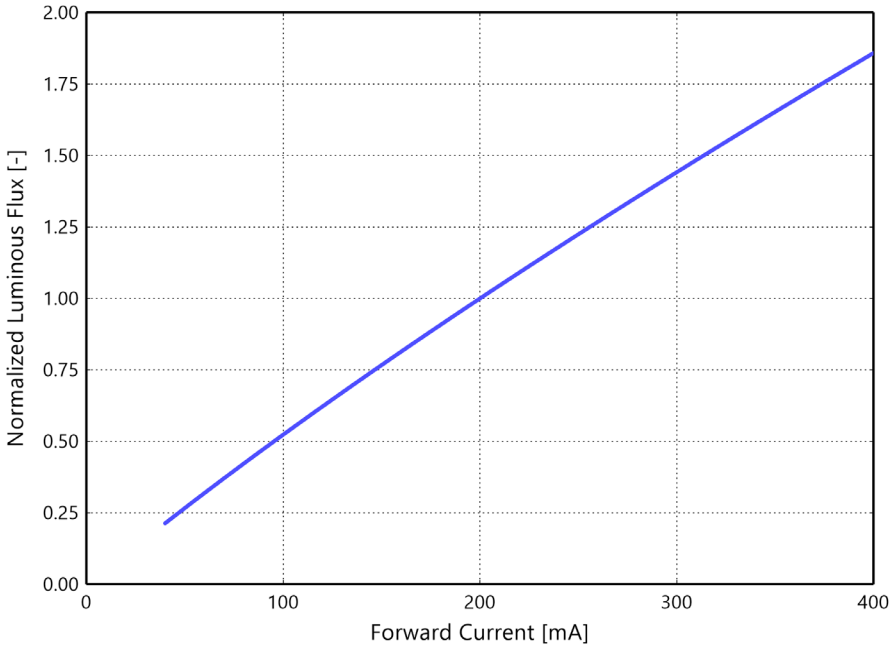


Figure 3a. Typical normalized light output vs. forward current for L2C5-xxxx1202I06xx at T_j=85°C

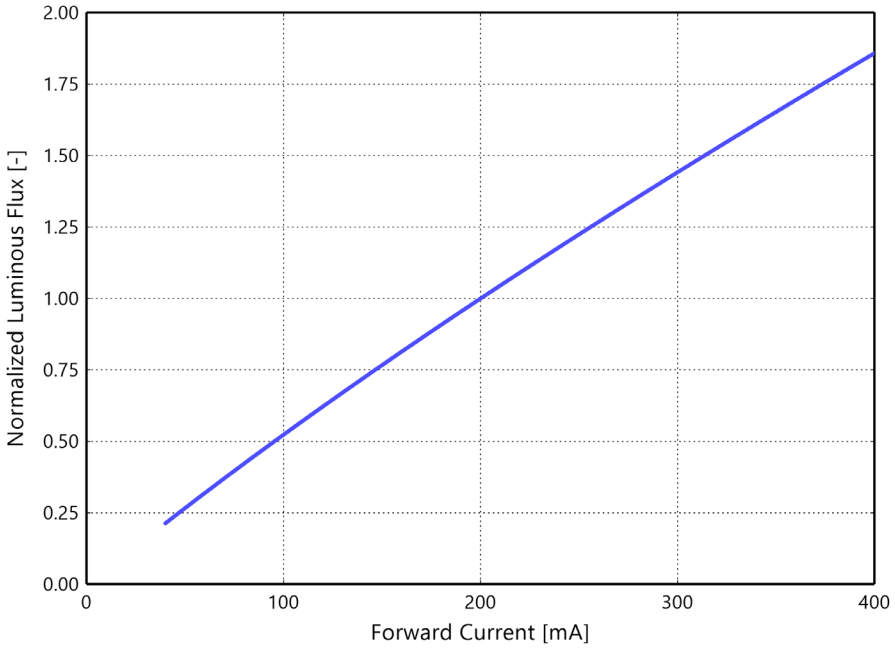


Figure 3b. Typical normalized light output vs. forward current for L2C5-xxxx1202I09x0x at T_j=85°C

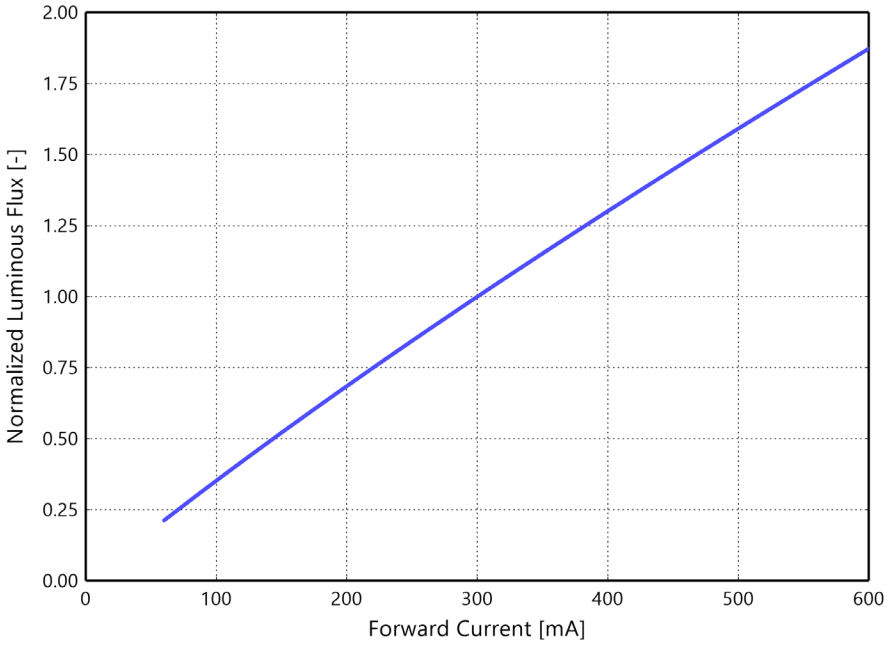


Figure 3c. Typical normalized light output vs. forward current for L2C5-xxxx1203I09xx at T_j=85°C

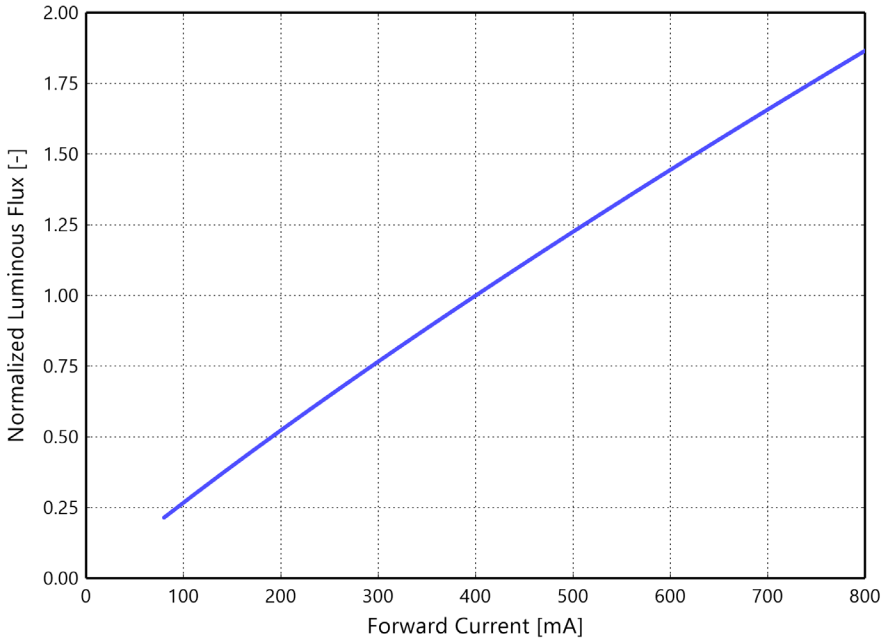


Figure 3d. Typical normalized light output vs. forward current for L2C5-xxxx1204l09xx at T_j=85°C

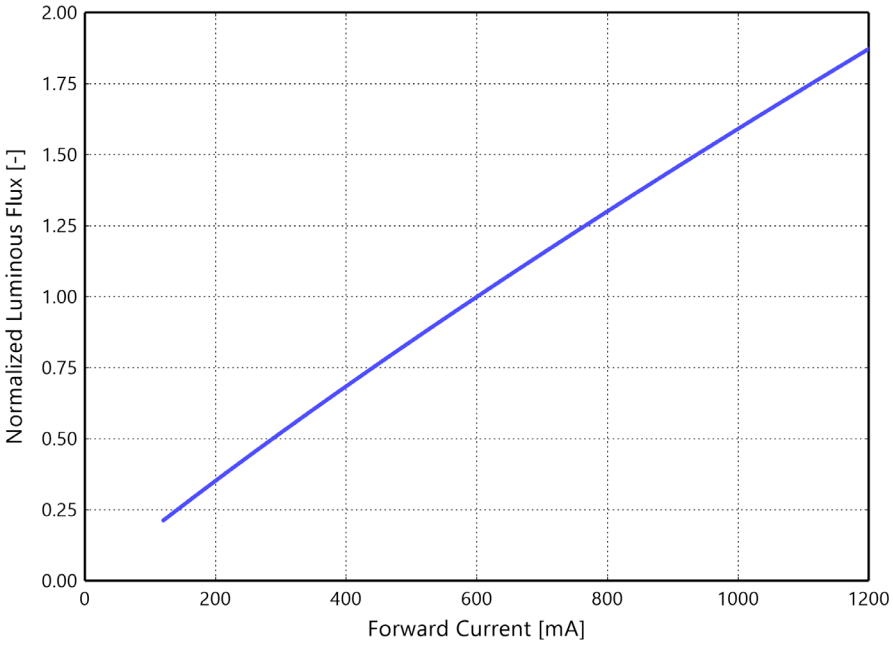


Figure 3e. Typical normalized light output vs. forward current for L2C5-xxxx1205l13xx at T_j=85°C

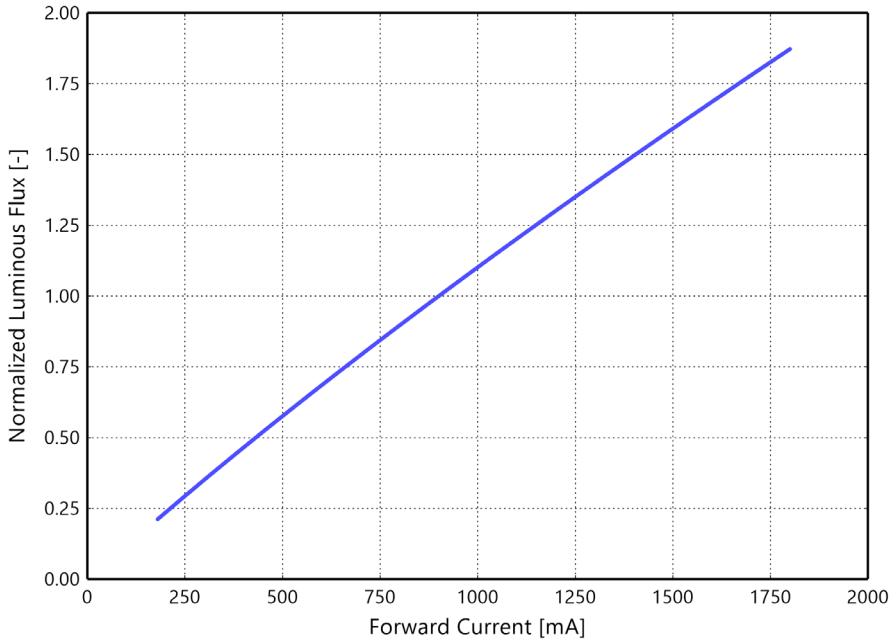


Figure 3f. Typical normalized light output vs. forward current for L2C5-xxxx1208I15xx at T_j=85°C

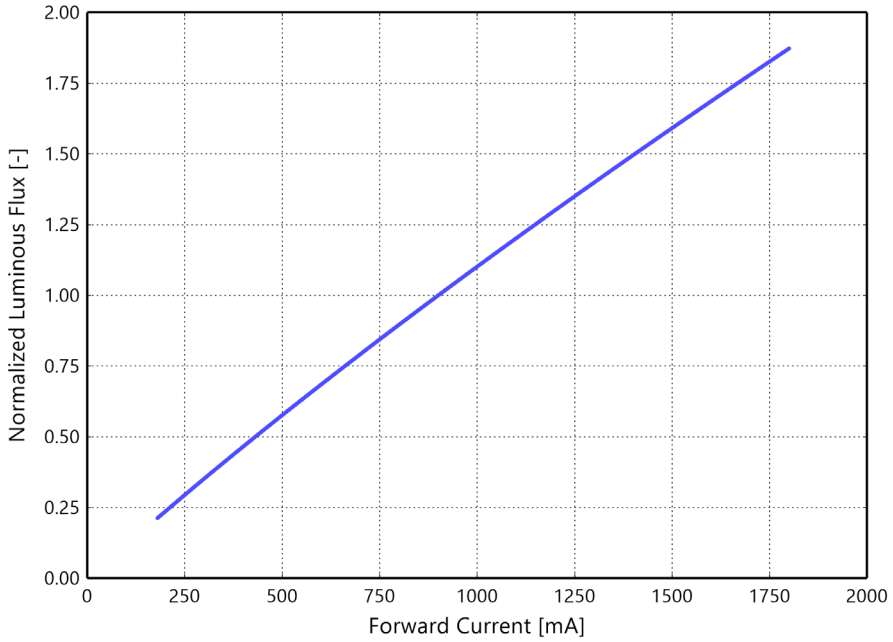


Figure 3g. Typical normalized light output vs. forward current for L2C5-xxxx1210I15xx at T_j=85°C

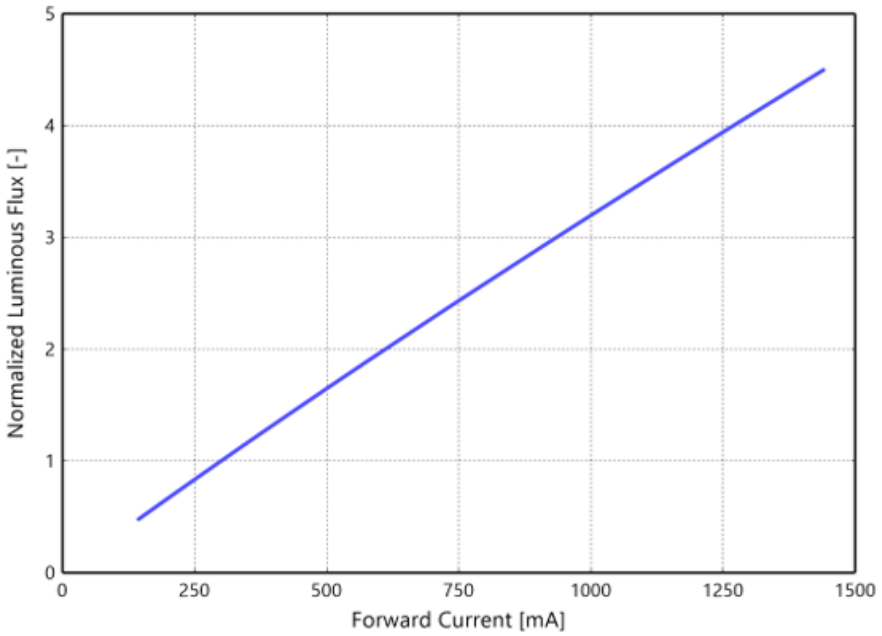


Figure 3h. Typical normalized light output vs. forward current for L2C5-xxxx1208J15xx at T_j=50°C

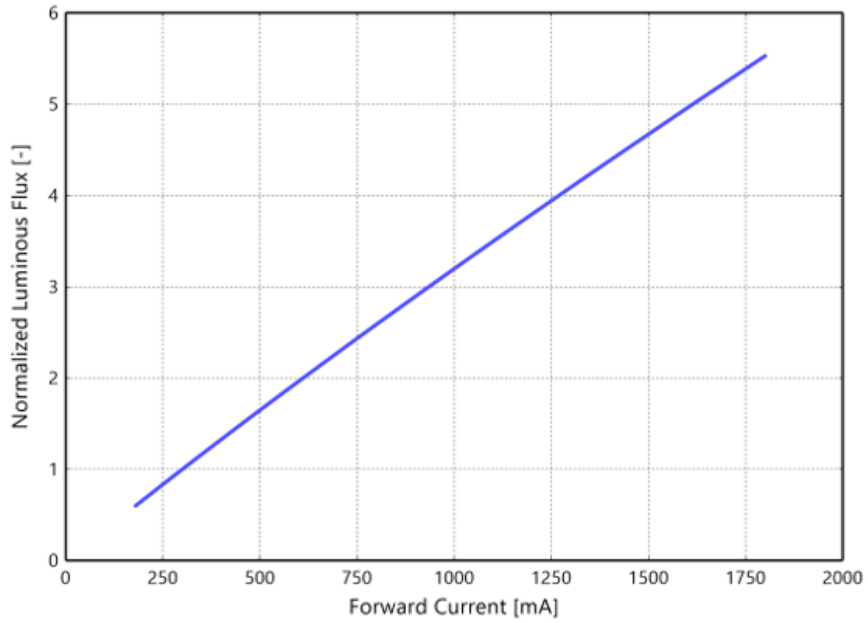


Figure 3i. Typical normalized light output vs. forward current for L2C5-xxxx1210J15xx at T_j=50°C

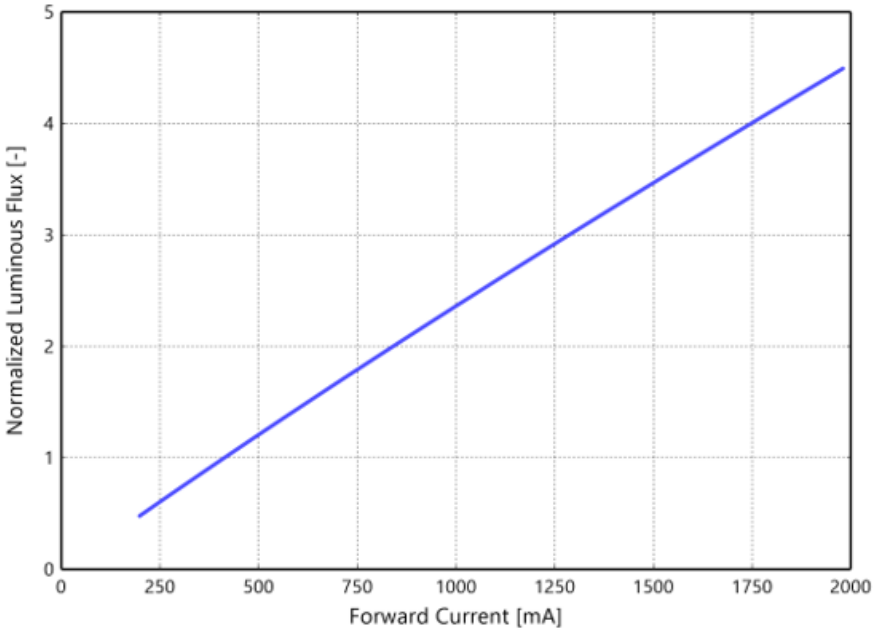


Figure 3j. Typical normalized light output vs. forward current for L2C5-xxxx1211J19xx at T_j=50°C

Forward Current Characteristics

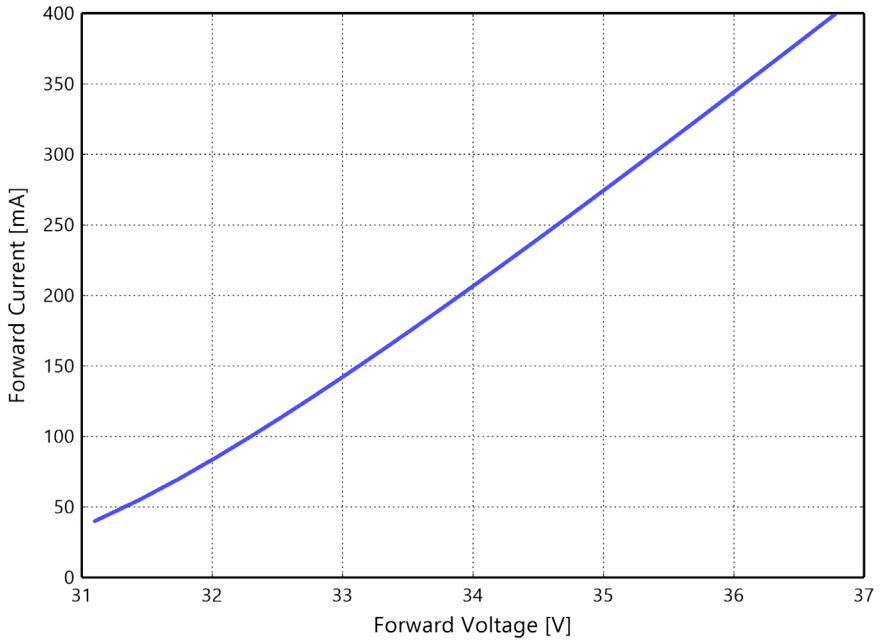


Figure 4a. Typical forward current vs. forward voltage for L2C5-xxxx1202I06xx at T_j=85°C

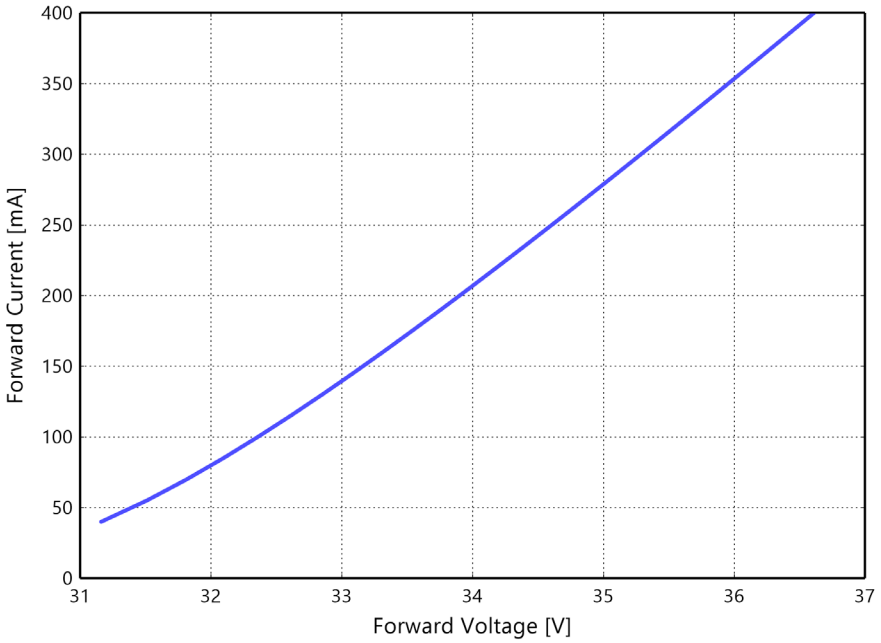


Figure 4b. Typical forward current vs. forward voltage for L2C5-xxxx1202I09xx at T_j=85°C

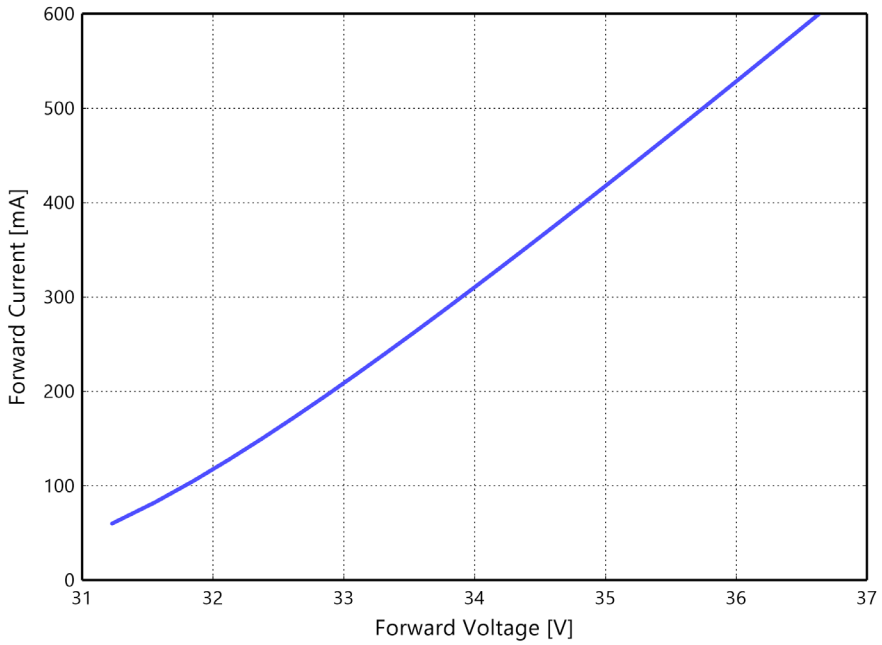


Figure 4c. Typical forward current vs. forward voltage for L2C5-xxxx1203I090xx at T_j=85°C

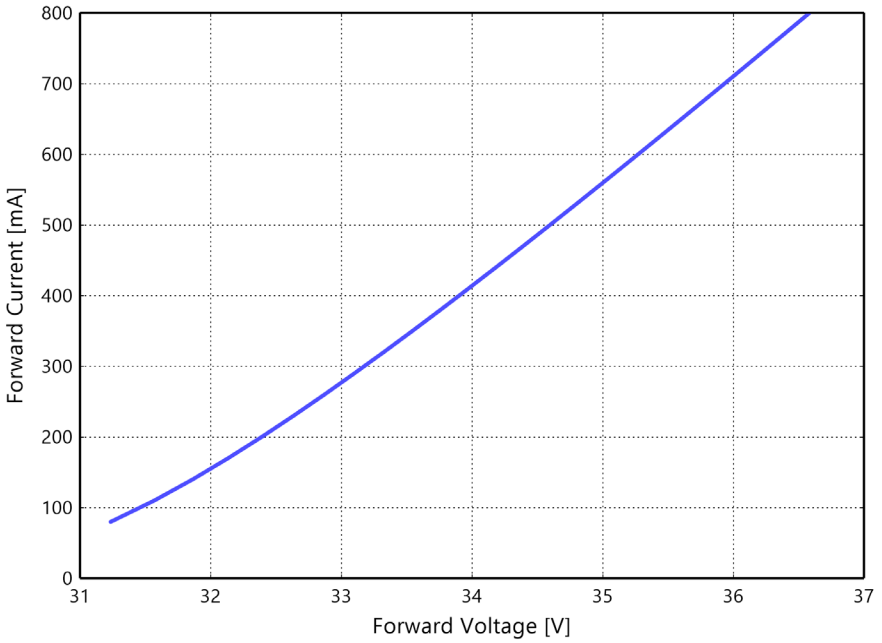


Figure 4d. Typical forward current vs. forward voltage for L2C5-xxxx1204I09xx at T_j=85°C

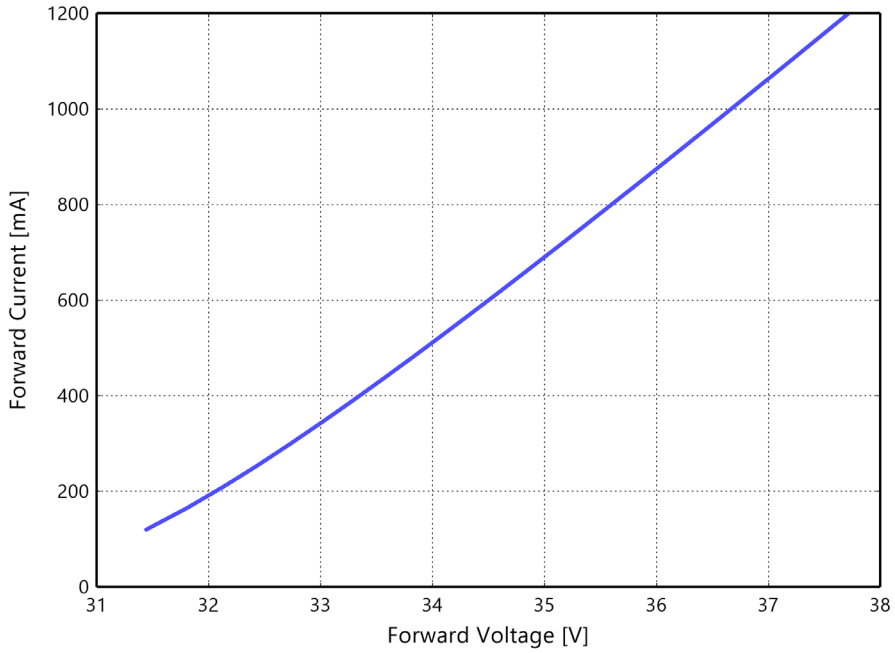


Figure 4e. Typical forward current vs. forward voltage for L2C5-xxxx1205I13xx at T_j=85°C

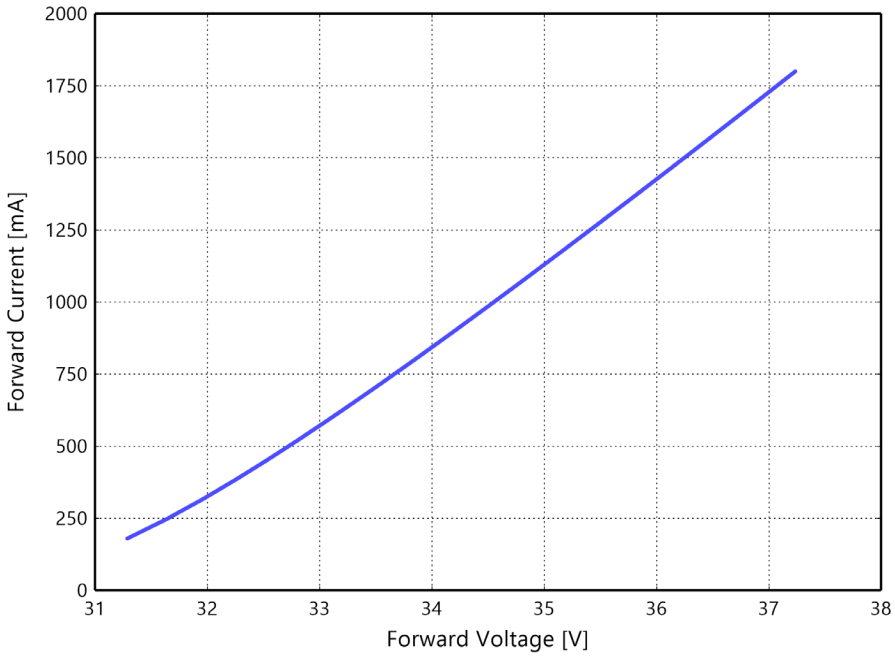


Figure 4f. Typical forward current vs. forward voltage for L2C5-xxxx1208I15xx at T_j=85°C

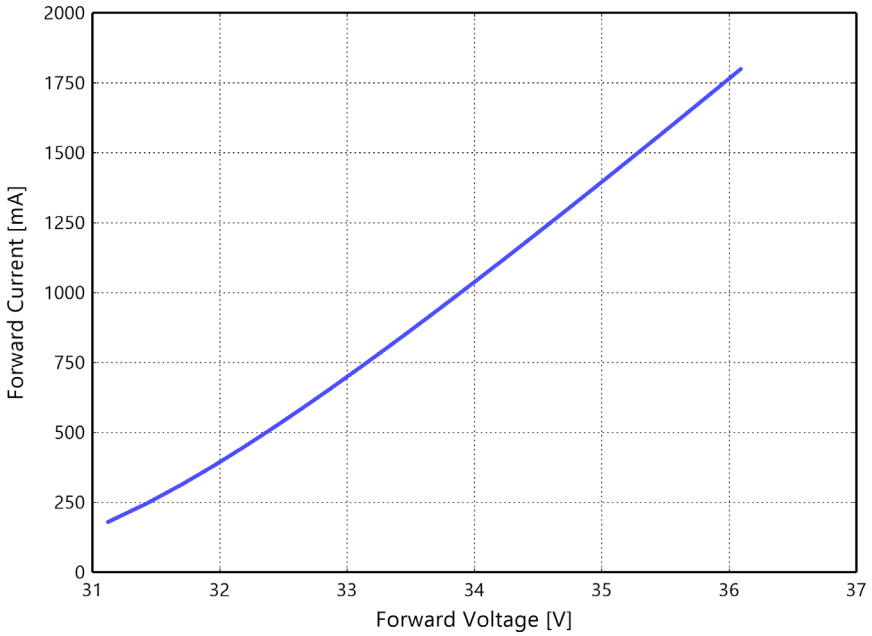


Figure 4g. Typical forward current vs. forward voltage for L2C5-xxxx1210I15xx at T_j=85°C

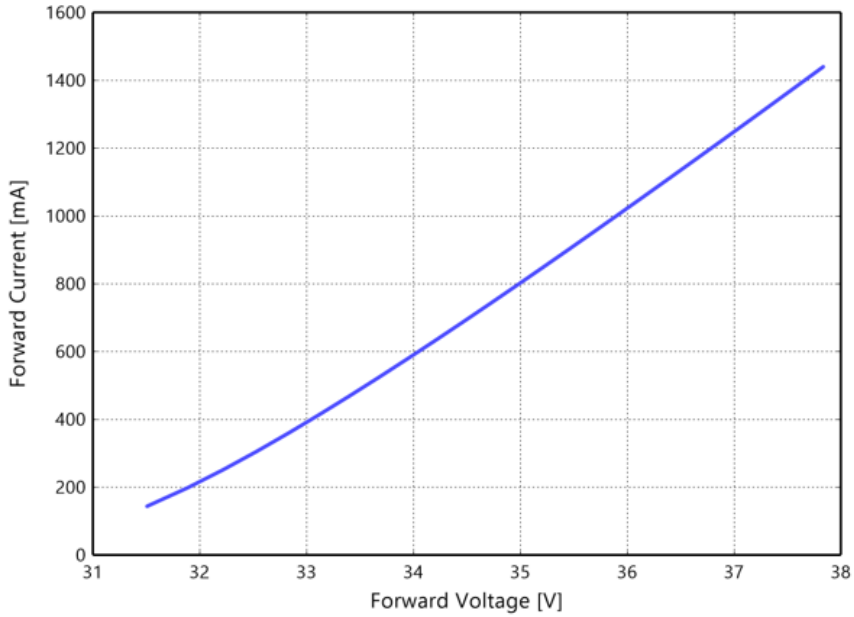


Figure 4h. Typical forward current vs. forward voltage for L2C5-xxxx1208J15xx at T_j=50°C

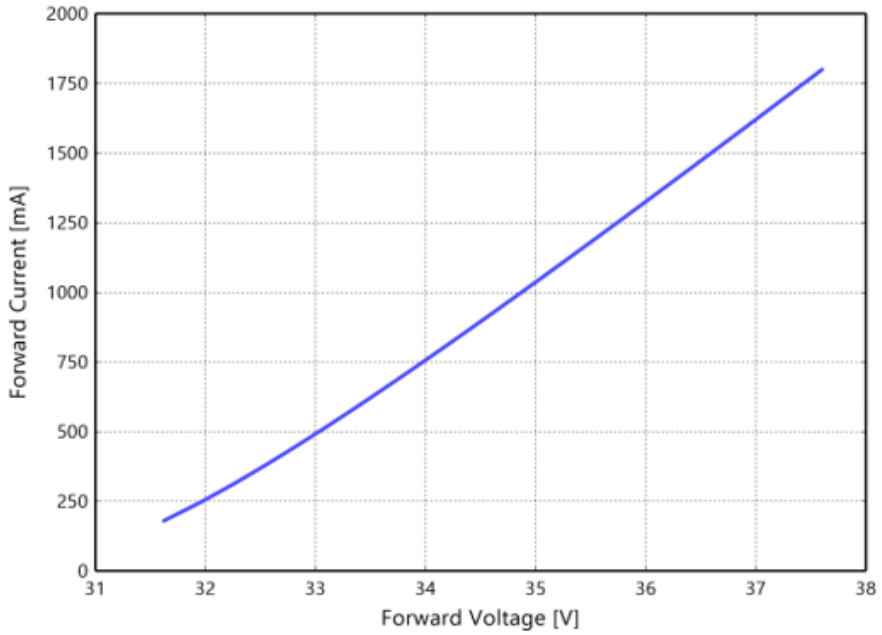


Figure 4i. Typical forward current vs. forward voltage for L2C5-xxxx1210J15xx at T_j=50°C

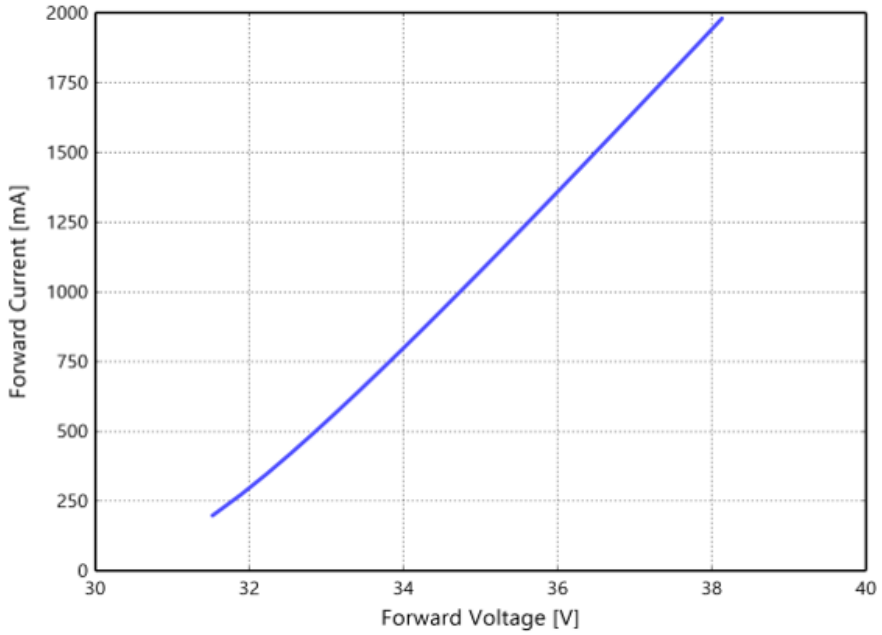


Figure 4j. Typical forward current vs. forward voltage for L2C5-xxxx1211J19xx at T_j=50°C

Radiation Pattern Characteristics

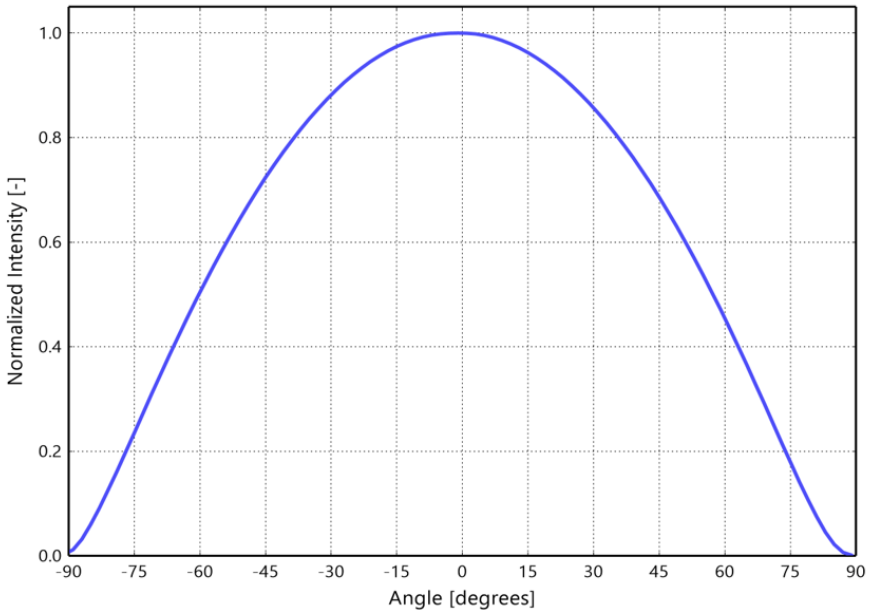


Figure 5a. Typical radiation pattern for LUXEON CoB Core Range Gen 6 at specified test current, T_j=85°C

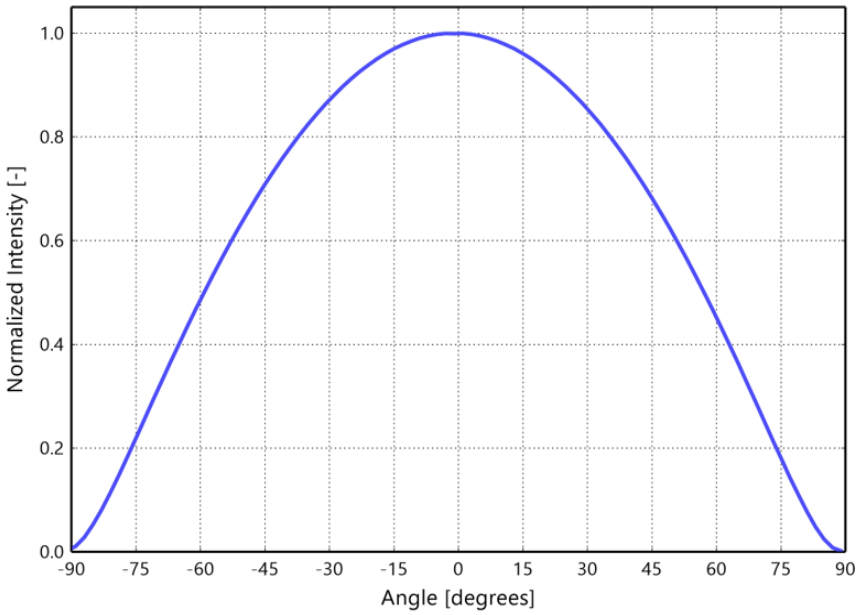


Figure 5b. Typical radiation pattern for LUXEON CoB Core Range Gen 6 HE and Gen 6 HE PW at specified test current, T_j=50°C

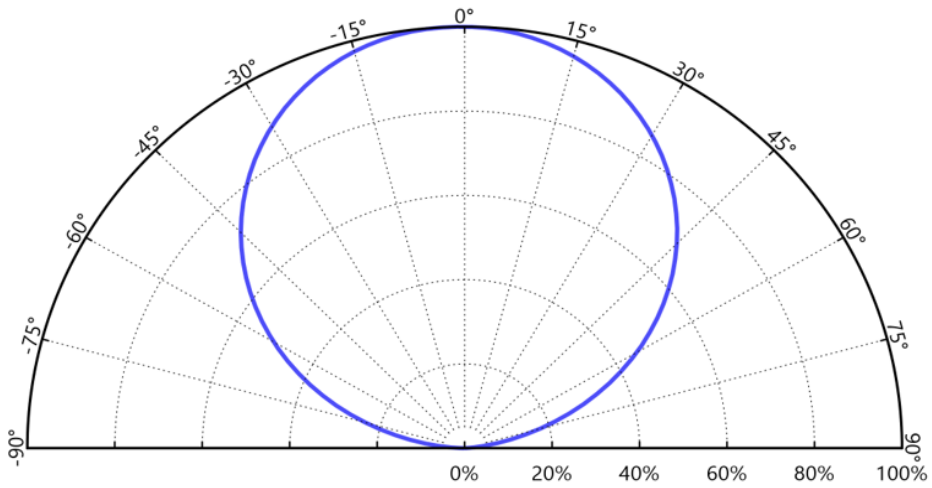


Figure 6a. Typical polar radiation pattern for LUXEON CoB Core Range Gen 6 at specified test current, T_j =85°C

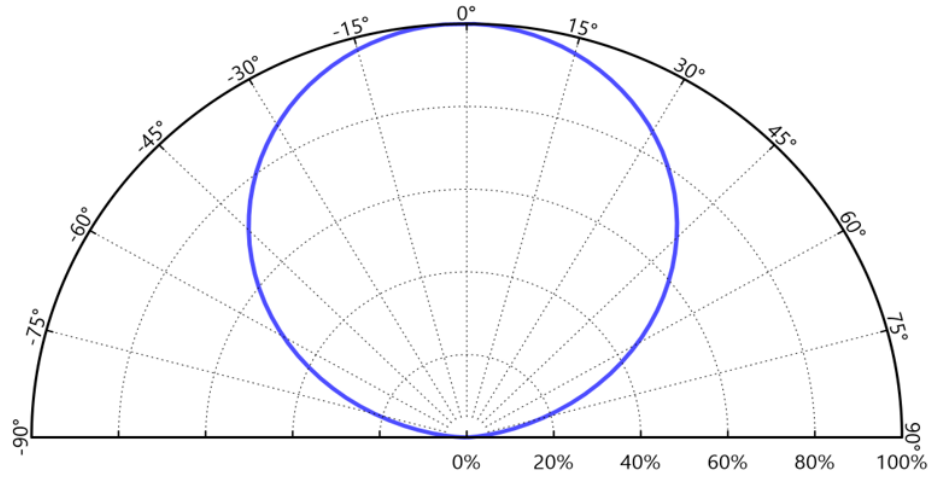


Figure 6b. Typical polar radiation pattern for LUXEON CoB Core Range Gen 6 HE and Gen 6 HE PW at specified test current, T_j =50°C

Color Bin Definitions

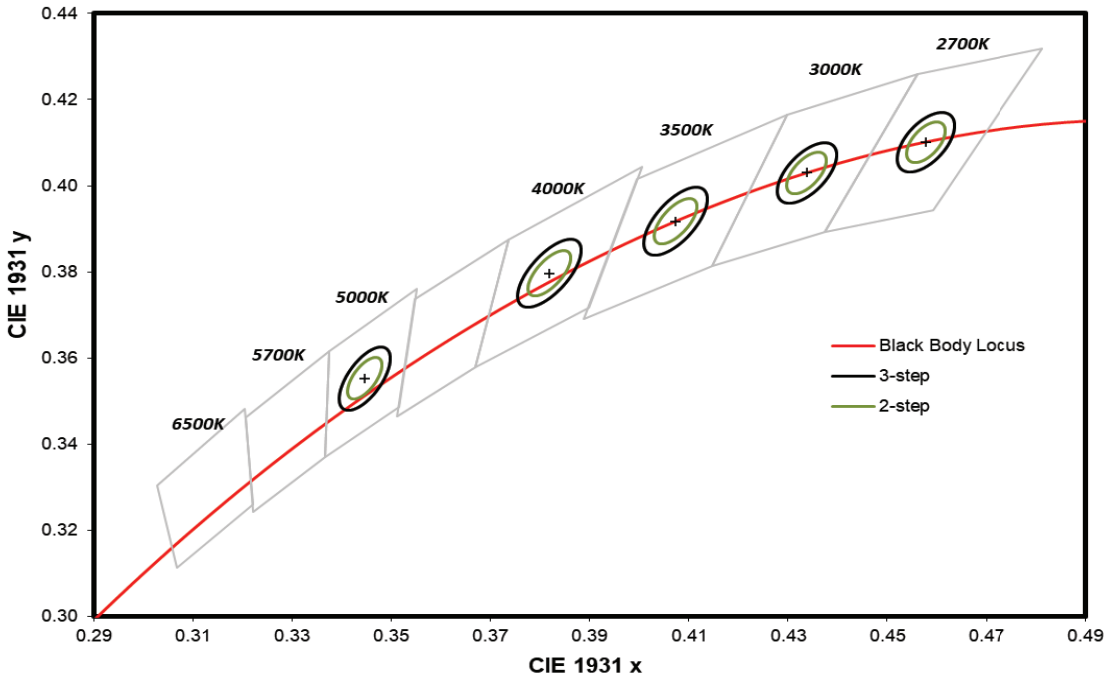


Figure 7a. 2-step and 3-step MacAdam ellipse illustration for Table 6a

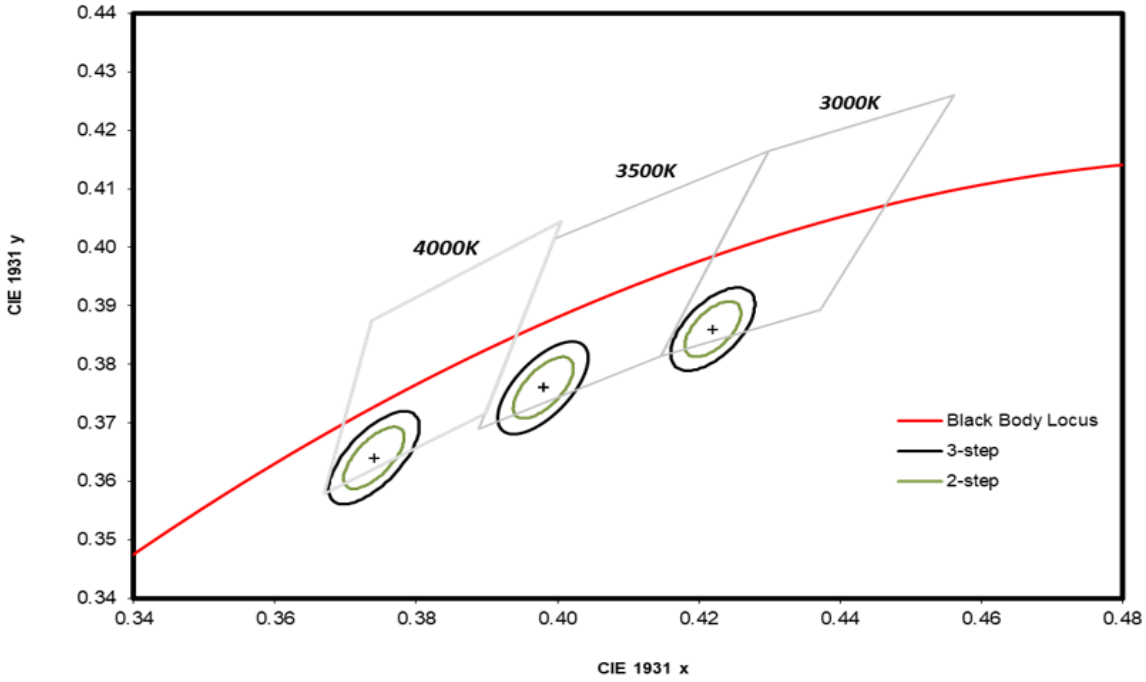


Figure 7b. 2-step and 3-step MacAdam ellipse illustration for Table 6b

Table 6a. 2-step and 3-step MacAdam ellipse color bin definitions for LUXEON CoB Core Range

NOMINAL CCT	COLOR SPACE	CENTER POINT [1] (cx, cy)	MAJOR AXIS, a		MINOR AXIS, b		ELLIPSE ROTATION ANGLE, θ
			2-step	3-step	2-step	3-step	
2700K	2-step, 3-step MacAdam ellipse	(0.4578, 0.4101)	0.00540	0.00810	0.00280	0.00420	53.70°
3000K	2-step, 3-step MacAdam ellipse	(0.4338, 0.4030)	0.00556	0.00834	0.00272	0.00408	53.22°
3500K	2-step, 3-step MacAdam ellipse	(0.4073, 0.3917)	0.00618	0.00927	0.00276	0.00414	54.00°
4000K	2-step, 3-step MacAdam ellipse	(0.3818, 0.3797)	0.00626	0.00939	0.00268	0.00402	53.72°
5000K	2-step, 3-step MacAdam ellipse	(0.3447, 0.3553)	0.00548	0.00822	0.00236	0.00354	59.62°

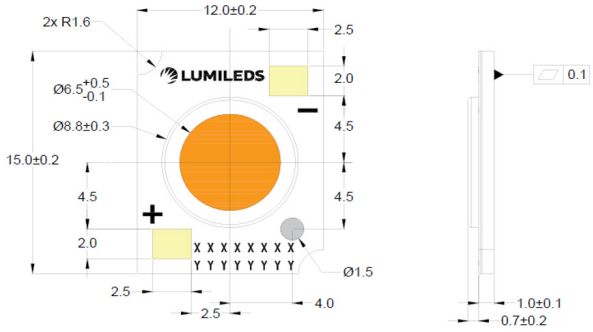
Notes for Table 6a:
1. Lumileds maintains a tolerance of ±0.005 on x and y coordinates in the CIE 1931 color space.

Table 6b. 2-step and 3-step MacAdam ellipse color bin definitions for LUXEON CoB Core Range PW

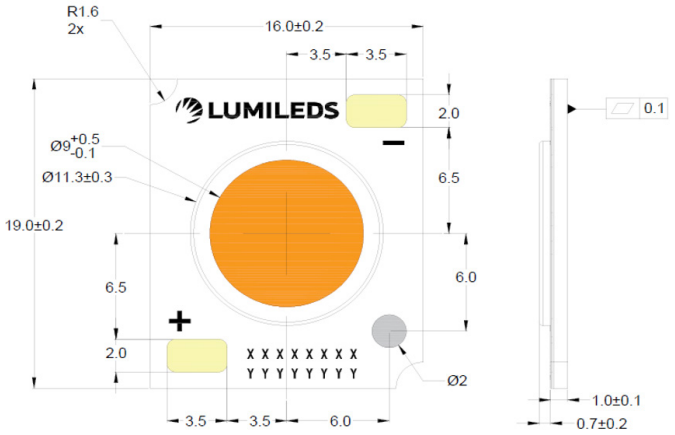
NOMINAL CCT	COLOR SPACE	CENTER POINT [1] (cx, cy)	MAJOR AXIS, a		MINOR AXIS, b		ELLIPSE ROTATION ANGLE, θ
			2-step	3-step	2-step	3-step	
3000K	2-step, 3-step MacAdam ellipse	(0.422, 0.386)	0.00556	0.00834	0.00272	0.00408	53.20°
3500K	2-step, 3-step MacAdam ellipse	(0.398, 0.376)	0.00618	0.00927	0.00276	0.00414	54.00°
4000K	2-step, 3-step MacAdam ellipse	(0.374, 0.364)	0.00626	0.00939	0.00268	0.00402	53.70°

Notes for Table 6b:
1. Lumileds maintains a tolerance of ±0.005 on x and y coordinates in the CIE 1931 color space.

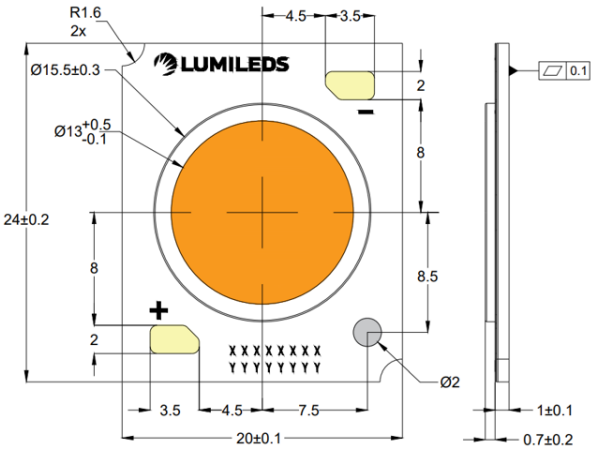
Mechanical Dimensions



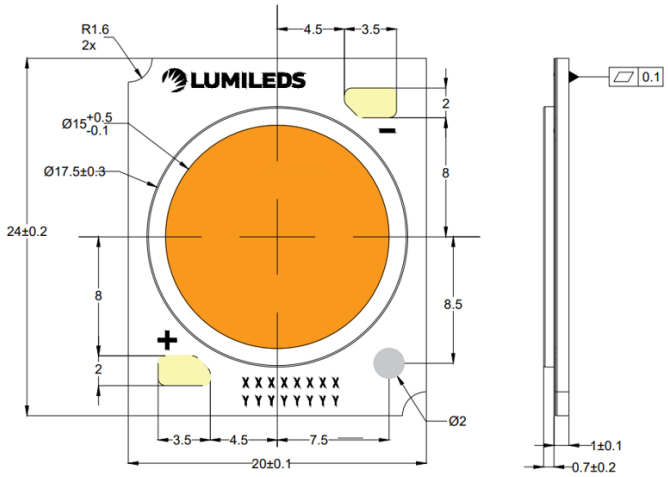
L2C5-xxxx1202x060x



L2C5-xxxx1202x090x, L2C5-xxxx1203x090x, L2C5-xxxx1204x090x



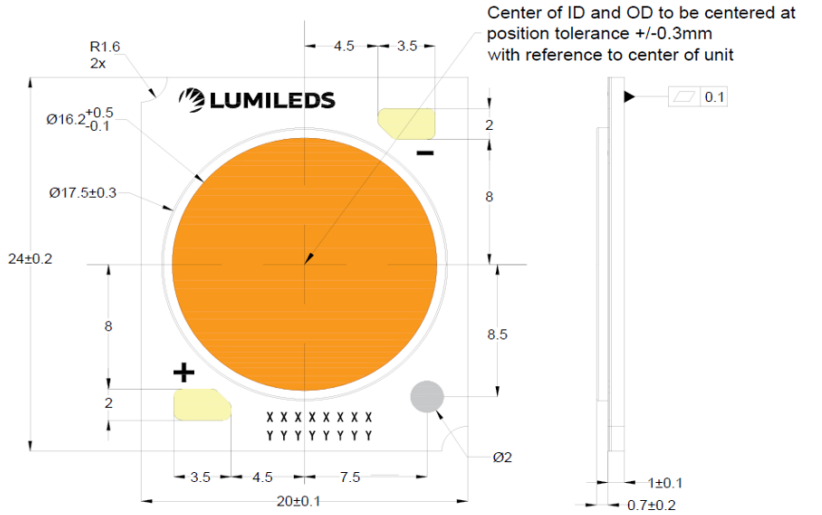
L2C5-xxxx1205x130x



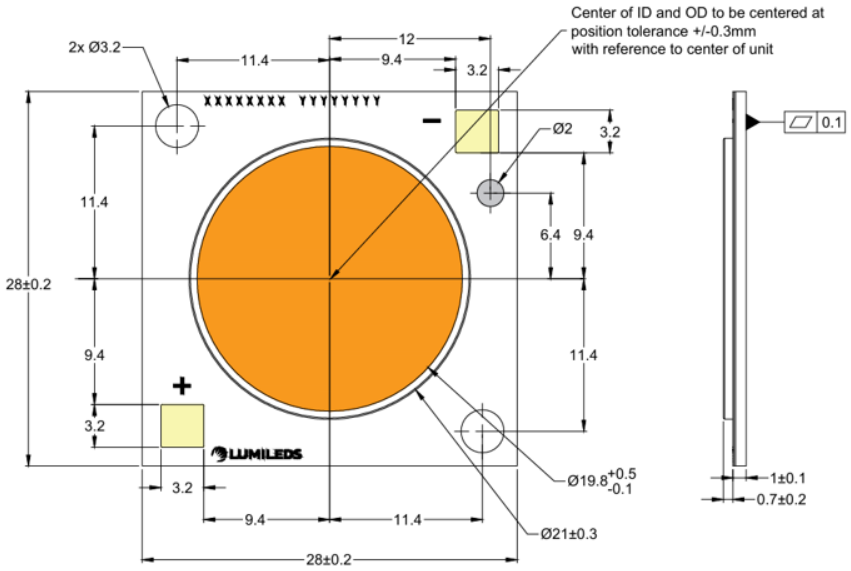
L2C5-xxxx1208x150x, L2C5-xxxx1210x150x

Figure 8a. Mechanical dimensions for LUXEON CoB Core Range Gen 6 and Gen 6 PW

Notes for Figure 8a:
1. Drawings not to scale.
2. All dimensions are in millimeters.
3. Dam heights: 0.7mm is applicable to L2C5-xx90xxxxxxxx, 0.5mm to L2C5-xx80xxxxxxxx



L2C5-xxxx1208J150x, L2C5-xxxx1210J150x



L2C5-xxxx1211J190x

Figure 8b. Mechanical dimensions for LUXEON CoB Core Range Gen 6 HE and Gen 6 HE PW

Notes for Figure 8b:
1. Drawings not to scale.
2. All dimensions are in millimeters.
3. Dam heights: 0.7mm is applicable to L2C5-xx90xxxxxxxxx, 0.5mm to L2C5-xx80xxxxxxxxx

Packaging and Labeling Information

LUXEON CoB Core Range LEDs are packaged in tubes then in a carton box. Each tube contains a specified number of LEDs. The LEDs in each tube come from a single category code, ensuring they are all well-matched for light output, color, and forward voltage. Each tube contains a rubber stopper at one end. The tube label has both alphanumeric and bar code information. The carton boxes have printed information providing part numbers with CAT codes that indicate luminous flux, color and forward voltage bins.

Table 7. Number of LEDs per tube for LUXEON CoB Core Range

PART NUMBER	TOTAL UNITS PER TUBE	TOTAL TUBES PER INNER BOX	TOTAL UNITS PER INNER BOX
L2C5-xxxx1202x06xx	20	5	100
L2C5-xxxx1202x09xx	20	5	100
L2C5-xxxx1203x09xx	20	5	100
L2C5-xxxx1204x09xx	20	5	100
L2C5-xxxx1205x13xx	20	5	100
L2C5-xxxx1208x15xx	20	5	100
L2C5-xxxx1210x15xx	20	5	100
L2C5-xxxx1211x19xx	10	5	100

Tube

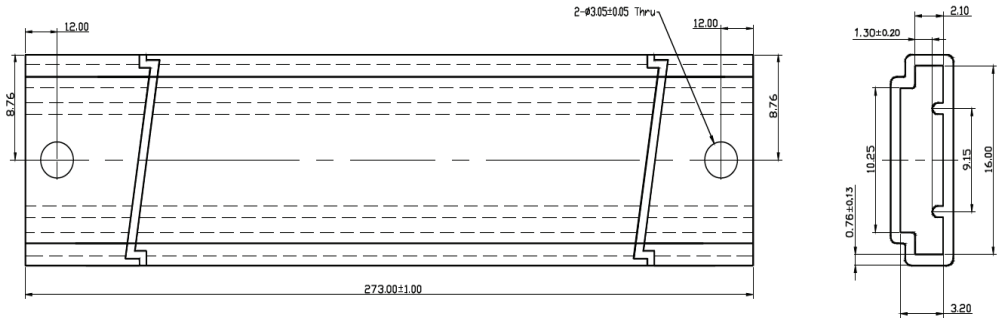


Figure 9a. Tube dimensions for L2C5-xxxx1202x060x

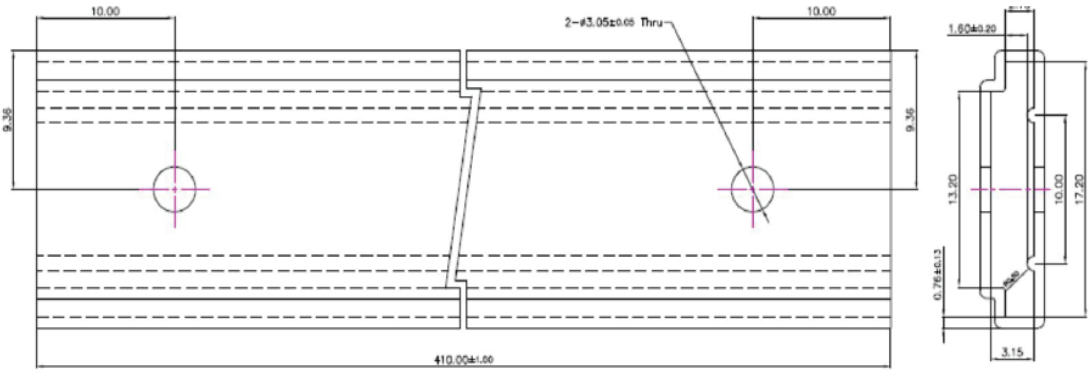


Figure 9b. Tube dimensions for L2C5-xxxx1202x090x, L2C5-xxxx1203x090x and L2C5-xxxx1204x090x

Notes for Figures 9a and 9b:
1. Drawings not to scale.
2. All dimensions are in millimeters.

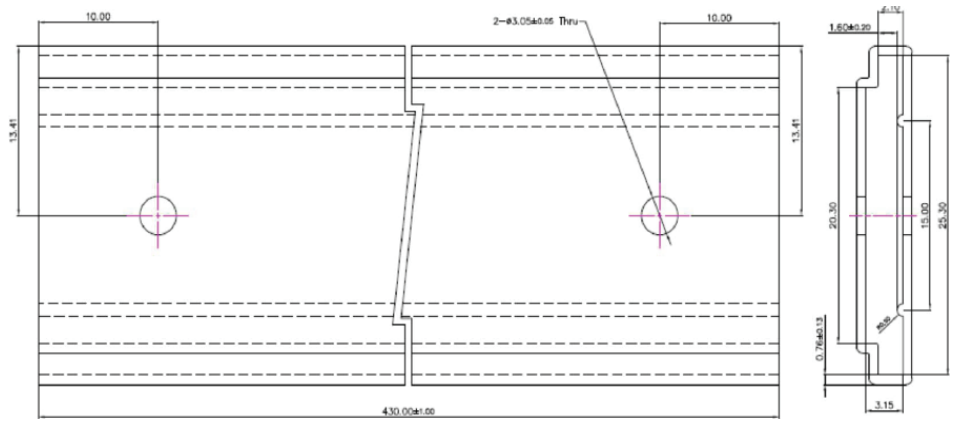


Figure 9c. Tube dimensions for L2C5-xxxx1205x130x, L2C5-xxxx1208x150x and L2C5-xxxx1210x150x

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

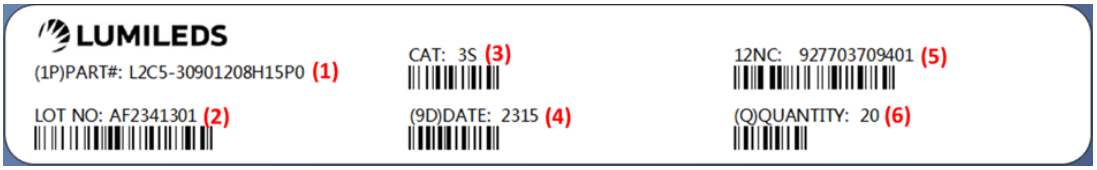


Figure 10. Example of a tube label for LUXEON CoB Core Range

Notes for Figure 10 - Tube Label descriptions for customer use:
Field labels not described are for Lumileds internal use only.
1. Lumileds part number.
2. Unique production lot identification number. This number is required for traceability purpose.
3. Product category code.
4. LED test date in YYWW format.
5. Internal reference number.
6. Number of LED emitters in a tube.

Inner Box

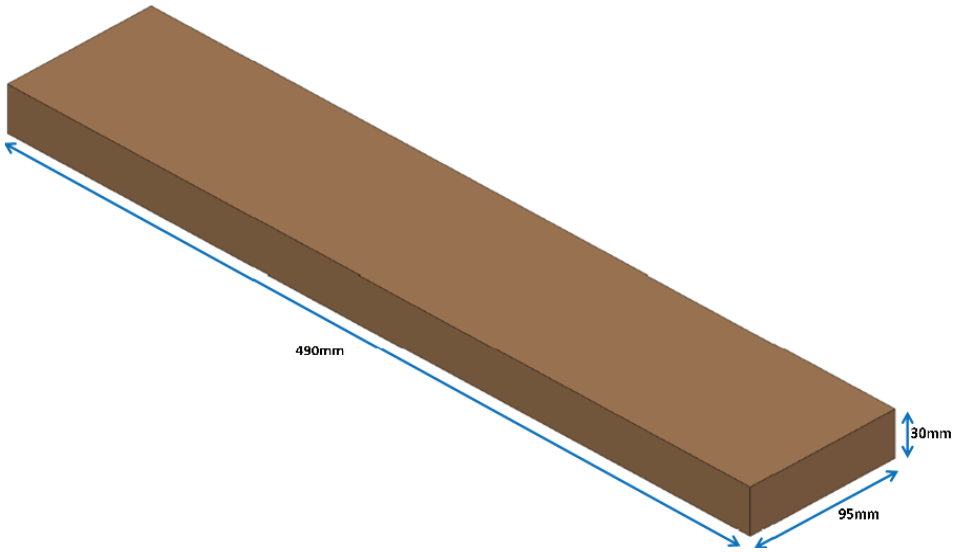


Figure 11. Dimensions for inner box packaging for LUXEON CoB Core Range

Table 8. Inner box information for LUXEON CoB Core Range

BOX TYPE	DIMENSIONS (mm)			AVERAGE WEIGHT (100pcs/box)	AVERAGE WEIGHT (50pcs/box)
	H	L	W		
Inner Box	30	490	95	0.340Kg	0.305Kg

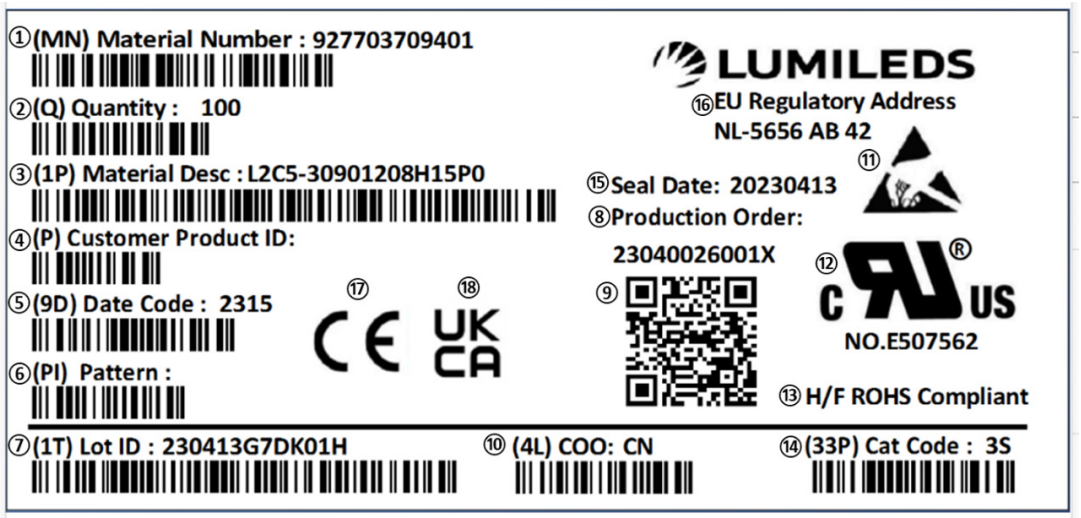


Figure 12. Example of inner box label for LUXEON CoB Core Range

Notes for Figure 12 – Inner Box Label descriptions for customer use:
Field labels not described are for Lumileds internal use only.

1. Internal reference number.
2. Number of LED emitters in a box.
3. Lumileds part number.
4. Customer part number for custom requests only.
5. LED test date in YYWW format.
6. Not use.
7. Unique production lot identification number. This number is required for traceability purpose.
8. Internal use.
9. Internal use.
10. Product Country of Origin.
11. ESD symbol.
12. UL certified marking.
13. RoHS compliance.
14. Product category code
15. MBB bag seal date in YYYYMMDD format.
16. EU regulatory address.
17. CE and UKCA certified markings.
18. CE and UKCA certified markings.

Outer Box

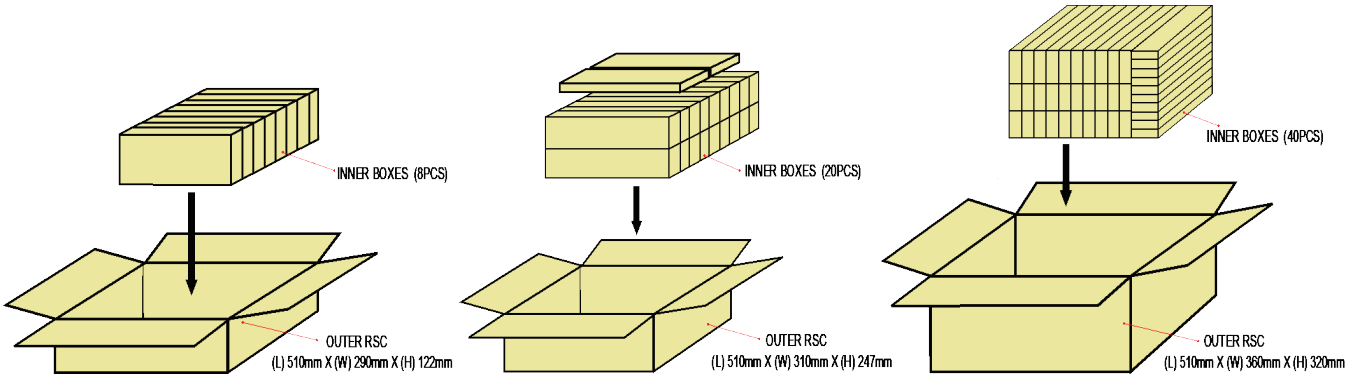


Figure 13. Dimensions for outer box packaging for LUXEON CoB Core Range

Table 9. Outer box information for LUXEON CoB Core Range

BOX TYPE	DIMENSIONS (mm)			MAXIMUM INNER BOXES PER OUTER BOX	MAXIMUM QUANTITY PER OUTER BOX	AVERAGE WEIGHT (100pcs/box)	AVERAGE WEIGHT (50pcs/box)
	H	L	W				
Outer Box 8	122	510	290	8	800	3.05kg	2.77kg
Outer Box 20	247	510	310	20	2000	7.55kg	6.85kg
Outer Box 40	320	510	360	40	4000	15.10kg	13.70kg

Figure 14. Example of outer box label for LUXEON CoB Core Range

Notes for Figure 14 – Outer Box Label descriptions for customer use:
Field labels not described are for Lumileds internal use only.

1. Internal reference number.
2. Lumileds part number.
3. Number of LED emitters in an outer box.
4. Total number of labels attached to a shipment box
5. Not use
6. Customer part number for custom requests only.
7. Unique production lot identification number. This number is required for traceability purpose.
8. Product category code
9. Number of LED emitters in an inner box.

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.

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