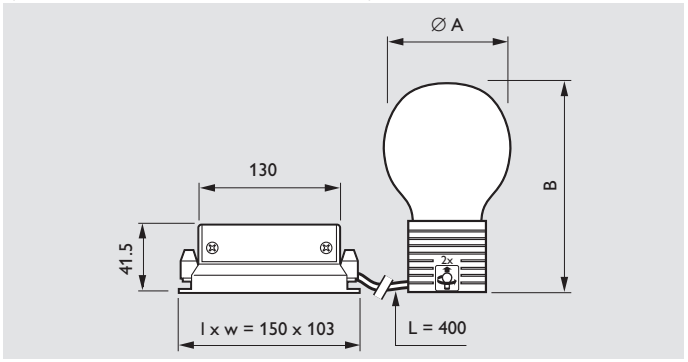
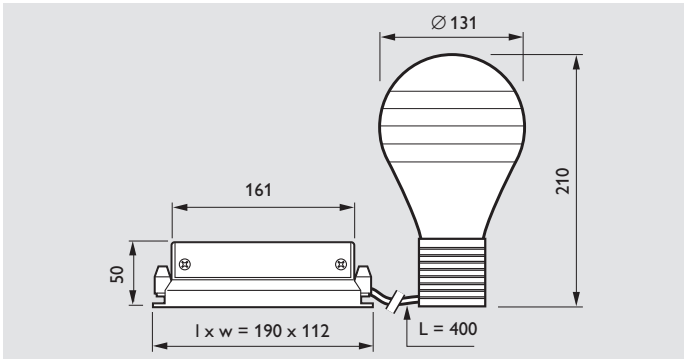
QL 165W

QL 55W

QL 85W



Type	A	B
QL 55W	85	140.5
QL 85W	111	180.5

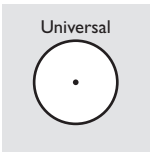


QL 165W *Dimensions in mm*

Definition
Compact, lightweight, high-frequency QL system for fluorescent induction lamps.

Description
- Ultra-long life up to 15 years based on 4000 burning hours / year
- Low energy consumption
- Constant light, independent of mains voltage fluctuations
- Automatic stop circuit is activated within 5 seconds in case of lamp failure (safety stop)
- Flicker-free start, ideal for areas with high switching frequency

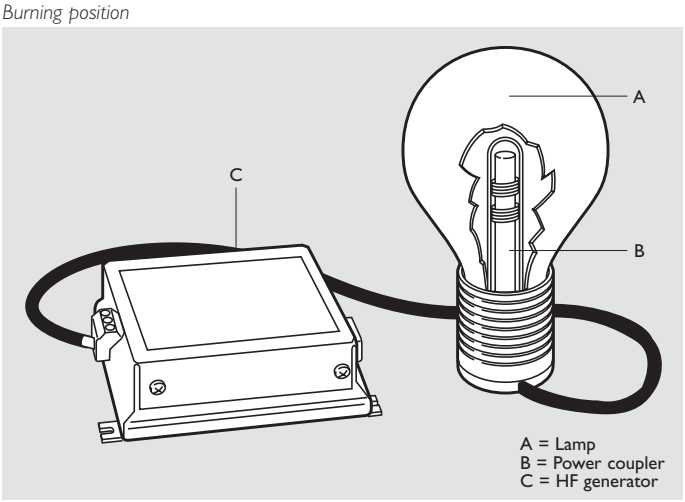
Applications
Typical areas of application include:
- Indoor general lighting
- Suitable for use with infrared remote control systems
- Outdoor lighting
- Special areas like tunnels, signs, cleanrooms, obstruction, and explosion-proof applications



Burning position

Philips quality
This implies optimum quality regarding:
- Ultra-long life.
  As manufacturer of QL lamps and HF generator, Philips ensures that, from the earliest development stage, optimum lamp/ HF generator performance is maintained.
- International standards.
  Philips QL systems comply with all relevant international rules and regulations.

Compliances and approvals
- RFI < 30MHz EN 55015
- RFI > 30MHz EN 55022
- Harmonics EN 61000-3-2
- Immunity EN 61547
- Safety EN 60928
- Performance EN 60929
- Vibration & bump tests
  IEC 68-2-6-Fc
  IEC 68-2-29-Eb
- Quality standards:
  ISO 9001
- Environmental standard
  ISO 14001
- Approval marks:
- CE marking



Note:
The QL lamp system is constructed to give designers maximum freedom for positioning the different system components. This limits the use of the system to luminaires which have provisions for additional cooling and which comply with the international Electro Magnetic Compatibility (EMC) standards. Disregarding this regulation can lead to damage of the QL lamp system, and unwanted interference with the environment.
Indicated test house approvals are valid for entire system. These approvals simplify the procedure of obtaining approvals for the total QL luminaire system.

A booklet, "Philips QL Lamp Systems - Information for Original Equipment Manufacturers", gives detailed guidance for developing appropriate luminaire designs.

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QL system	System Power	Lamp Efficacy	Lumen*	Colour rendering index	Average luminance	Lumen maintenance 60.000hrs
	W	lm/W	lm		cd/cm²	%
QL 55W	55	65	3500	80	6.5	75
QL 85W	85	70	6000	80	6.5	75
QL 165W	165	70	12000	80	22	70

*Note: * Typical values for 1827, 1830 and 1840*

Technical data for installation

Mains operation 230V

Rated mains voltage	220 – 240V
With tolerances for safety	180 – 264V
Tolerances for performance	184 – 255V
Mains frequency	50 / 60 Hz
Operating frequency	2.65MHz
Power factor	> 0.96

DC voltage operation
Required battery voltage for guaranteed ignition 190 – 264V_{DC}
Nominal light output is obtained at DC voltage of 220 – 240V_{DC}

Overvoltage protection: 48 hrs at 320V_{AC}; 2 hrs at 350V_{AC}

Constant light operation: in case of mains voltage fluctuations within 184 –255V, the luminous flux changes by a maximum of ± 2%

Mains operation 120V

Rated mains voltage	120V
With tolerances for safety	100 – 140V
Tolerances for performance	108 – 132V
Mains frequency	50 / 60 Hz
Operation frequency	2.65MHz
Power factor	> 0.96

DC voltage operation
Required battery voltage for guaranteed ignition 108 – 132V_{DC}
Nominal light output is obtained at DC voltage of 120V_{DC}

Overvoltage protection: 2 hrs at 200V_{AC}

Constant light operation: in case of mains voltage fluctuations within 108 –132V, the luminous flux change by a maximum of ± 2%

General

Earth leakage current: <0.5mA per QL system

Ignition time: < 0.5 s

Insulation resistance test: 500V DC from Line/Neutral to earth **(not between Line and Neutral)**
Note: Ensure that the Neutral is reconnected again after the above test is carried out and before the installation is put into operation.

Technical data for design and mounting QL system in fixtures

Temperatures
Min. ambient ignition temperature of lamp -20°C
T_{case} +65°C 60.000 Hrs (failure rate 10%)
Max. T_{case} +75°C

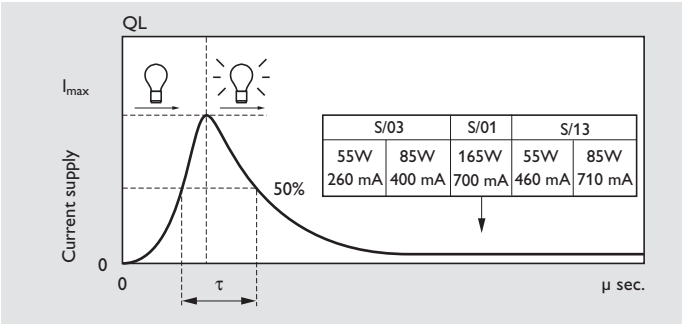
Hum and noise level inaudible
Permitted humidity is tested according to IEC 928 par.12.
Note that no moisture or condensation may enter the ballast.

Approvals

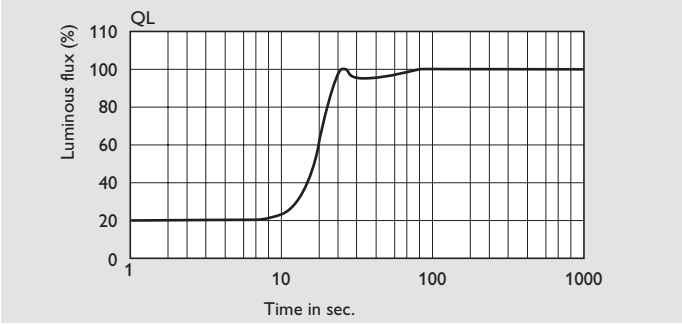
QL system	
QL 55W S/03 QL 85W S/03	KEMA KEUR, SP, UL, EMV
QL 55W S/13 QL 85W S/13	SP, UL, EMV
QL 165W S/01	KEMA KEUR, EMV

Typical voltage and current values for QL system

	V_{nom}	Inrush current 1/2 value time at typical mains impedance I_{max} / τ
QL 55W S/03	230V	45A / 350µs
QL 85W S/03	230V	45A / 350µs
QL 165W S/01	230V	45A / 500µs
QL 55W S/13	120V	25A / 550µs
QL 85W S/13	120V	25A / 550µs



Performance during start up



Typical luminous flux

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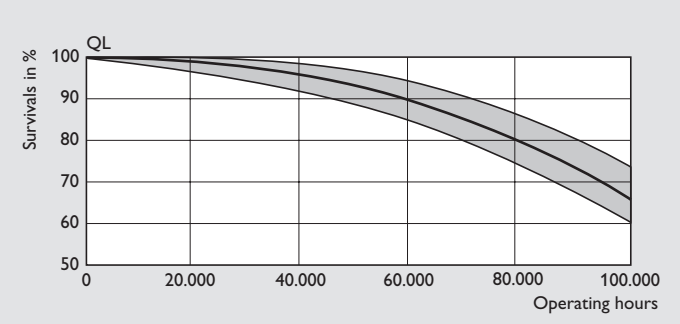
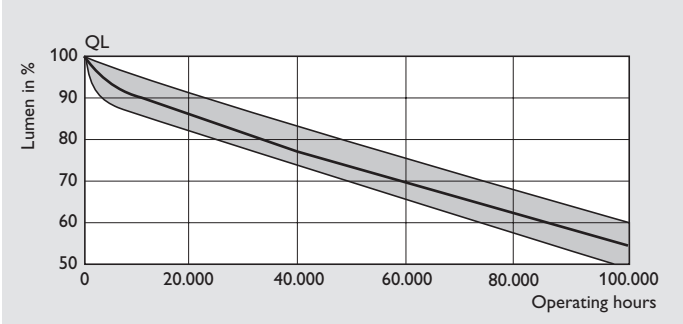
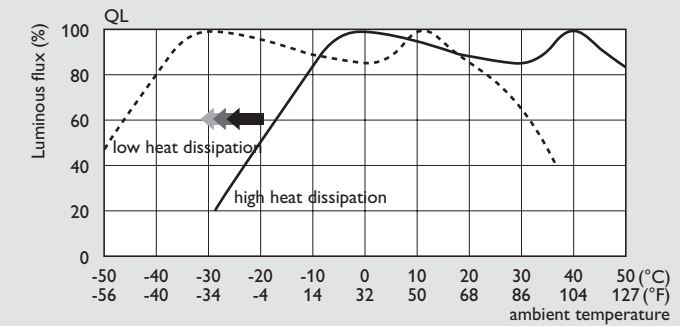


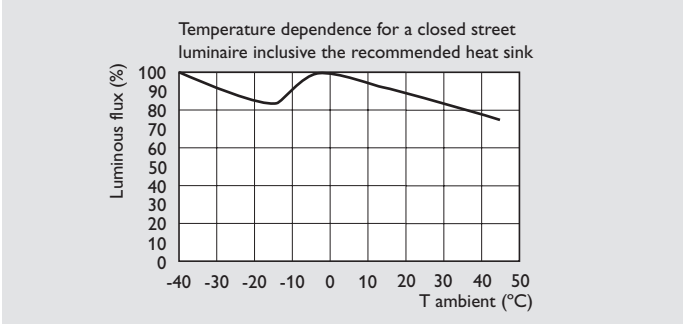
Life expectancy curves



Lumen maintainance



Effects of ambient temperature on luminous flux (QL 55 and QL 85W), for different luminaire types and heat dissipation



The above QL 165 W curve has been measured using a heat sink with surface area of 400 cm². Use of smaller heat sink will result in the curve shifting to the left whereas the use of larger heat sinks will result in the curve shifting to the right.

Ordering and packing data

Type			Ordering number	Bulk packing Qty.	Dimensions l x w x h cm	Volume m³	Weight Gross kg	EAN code	EOC
Lamp	QL55W/827	2700K	9280 654 08217	6	41x29.5x23	0.0278	1.7	8711 500 198648	198631
	QL55W/830	3000K	9280 654 08317	6	41x29.5x23	0.0278	1.7	8711 500 198686	198679
	QL55W/840	4000K	9280 654 08417	6	41x29.5x23	0.0278	1.7	8711 500 198723	198716
	QL85W/827	2700K	9280 657 08217	6	41x29.5x23	0.0278	2.1	8711 500 198761	198754
	QL85W/830	3000K	9280 657 08317	6	41x29.5x23	0.0278	2.1	8711 500 198808	198792
	QL85W/840	4000K	9280 657 08417	6	41x29.5x23	0.0278	2.1	8711 500 198846	198839
	QL165W/830	3000K	9280 690 08317	6	47.5x34x23.5	0.0378	2.1	8711 500 201034	201027
	QL165W/840	4000K	9280 690 08417	6	47.5x34x23.5	0.0378	2.1	8711 500 201058	201041
Power coupler	QL55W/PC		9144 999 91317	6	29.5x25x23	0.017	1.9	8711 500 198884	198877
	QL85W/PC		9144 999 91417	6	29.5x25x23	0.017	2.1	8711 500 198921	198914
	QL165W/PC		9144 999 92717	6	29.5x25x23	0.017	2.2	8711 500 200921	200914
HF generator	QL55W S/03	184-255V_{ac}	9137 001 16203	6	35x17x22.5	0.0134	3.0	8711 500 740021	740014
	QL85W S/03	184-255V_{ac}	9137 001 16303	6	35x17x22.5	0.0134	3.0	8711 500 739667	739650
	QL165W S/01	184-255V_{ac}	9137 001 30103	6	35.5x25x13	0.0115	3.4	8711 500 742940	742933
	QL55W S/13	108-132V_{ac}	9137 001 24903	6	35x17x22.5	0.0134	3.0	8711 500 741868	741851
	QL85W S/13	108-132V_{ac}	9137 001 25003	6	35x17x22.5	0.0134	3.0	8711 500 741899	741882

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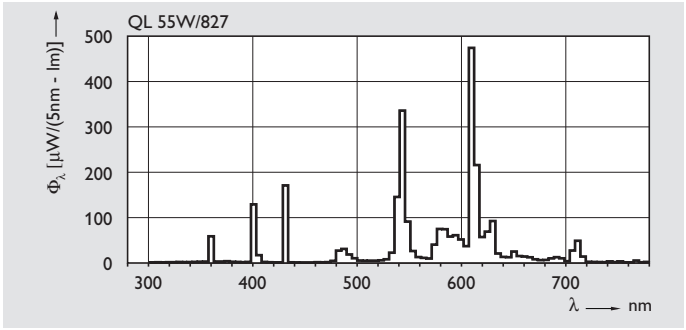
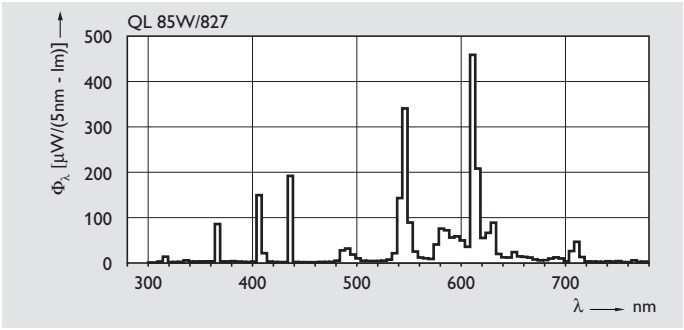
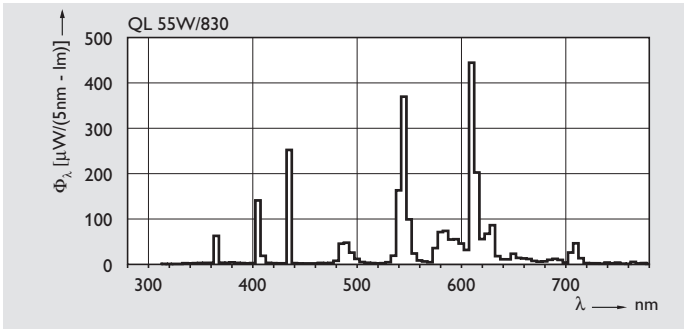
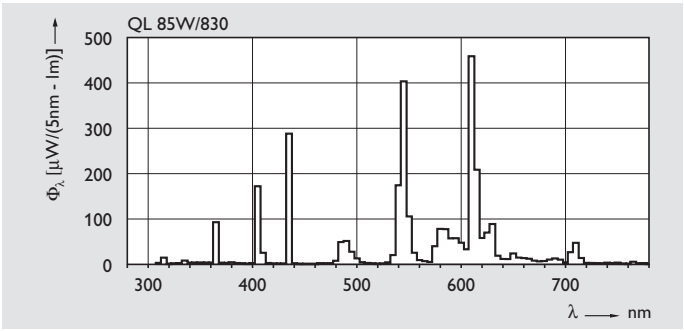
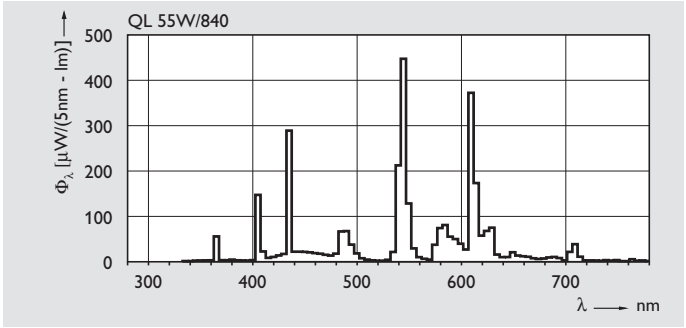
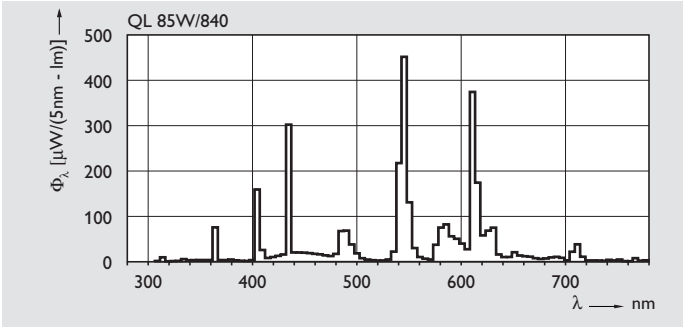


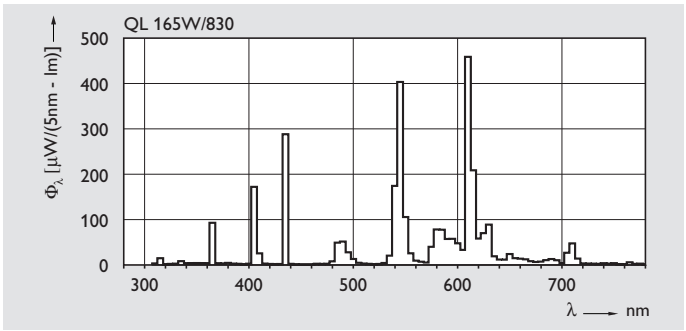


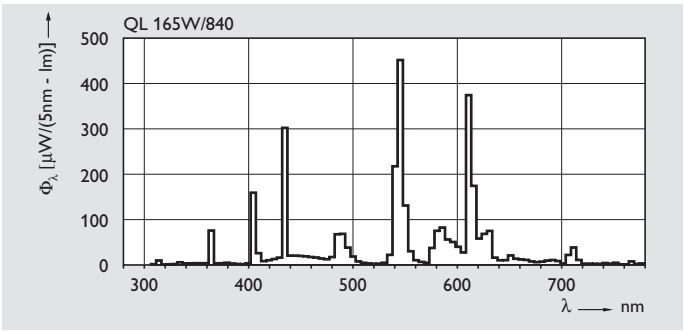




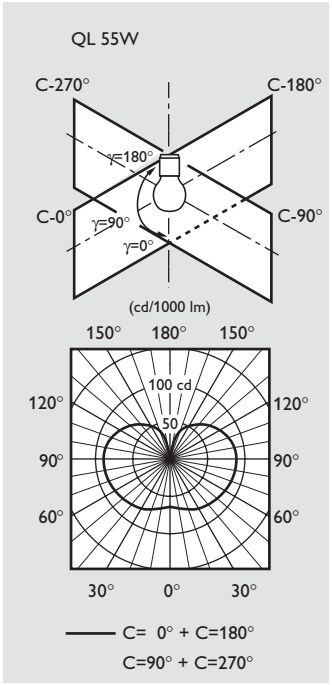


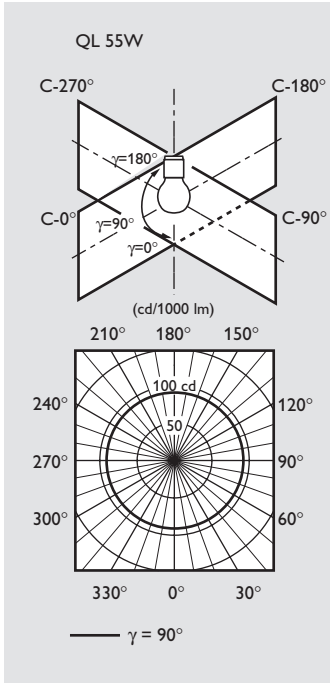


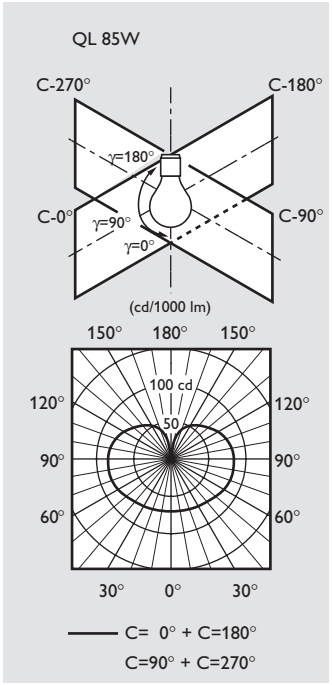


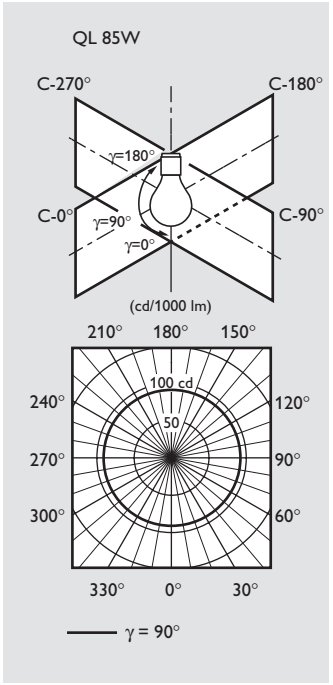


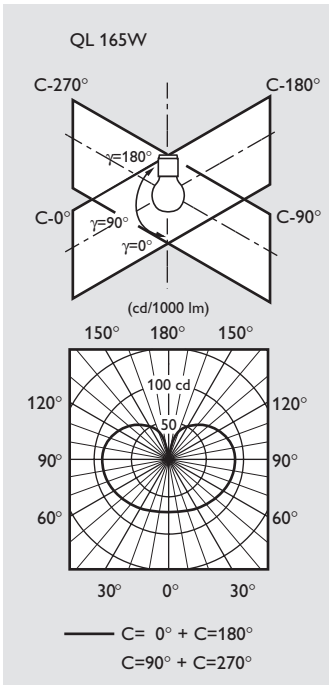
Spectral power distributions

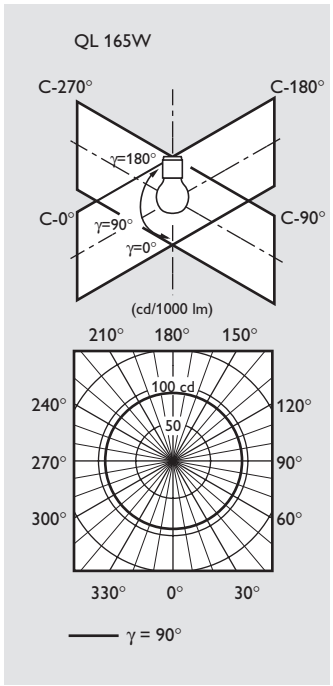












Polar light distributions