

# ChromaLit™ Extruded Linear

## CL-XXX-LIN01-PC0 Series

### Product Overview

Intematix Remote Phosphor light source will change the way you approach solid-state lighting design. ChromaLit™ offers beautiful light quality with unprecedented design freedom, colour control, system flexibility and efficiency. ChromaLit™ is ideal for the most efficient and innovative lighting system designs. Compared to conventional LED designs, where Blue chips are coated with a Phosphor compound, the ChromaLit™ collection leverages a Phosphor composite separated from the Blue LED energy source. This architecture provides unparalleled design freedom, more efficient manufacturing processes, exceptional light quality and up to 30 percent higher system efficacy.

ChromaLit Extruded Linear enables new and creative designs for high lumen area and decorative lighting systems. Combining the benefits of remote phosphor with a unique delivery system, ChromaLit Linear delivers the uniform, glare free, color consistent lighting associated with remote phosphor systems with the additional benefit of a clean and familiar off state white appearance.

### Applications

- Cabinet Lighting Fixtures
- Task Lighting
- High Bay Lighting
- Outdoor Area Lighting
- LED Modules

### Technical Features

- High operating temperature/high lumen output
- Off-state Neutral Colour
- Meets V0 flammability requirement and UV resistant
- Up to 30% higher system efficacy compared to conventional LED lighting designs
- Powered by radiant energy from Blue LEDs, lasers and OLEDs
- Enables streamlined supply and production of luminaires
- Glare-free and uniform light quality
- Consistent colour matching



## Product Nomenclature

ChromalIt Linear products are identified by the following product nomenclature:

CL-ABC-DEFGH-IJK-LMNPQ

### Where:

CL - Designates the ChromalIt product family

A - Designates first digit in CRI

8 = 80 CRI minimum, 9 = 90 CRI minimum

BC - Designates the first two digits in CCT

30 = 3000K, 40 = 4000K, etc.

DEF - Designates shape

LIN = ChromalIt Linear profile

GH - Profile identification number

01 = 2500 lm/ft maximum, 16mm OD round, 8mm ID, 20mm wide flange

IJK - Designates material and mechanical configuration

LMNP - Designated product length in mm

Q - Designates cut tolerance

R = Rough cut, tolerance is -0/+6.4 mm (-0 / +0.25")

### Example:

CL-840-LIN01-PC0-1220R: ChromalIt Linear, profile 1, 80CRI, 4000K CCT, polycarbonate, 1220 mm length, rough cut

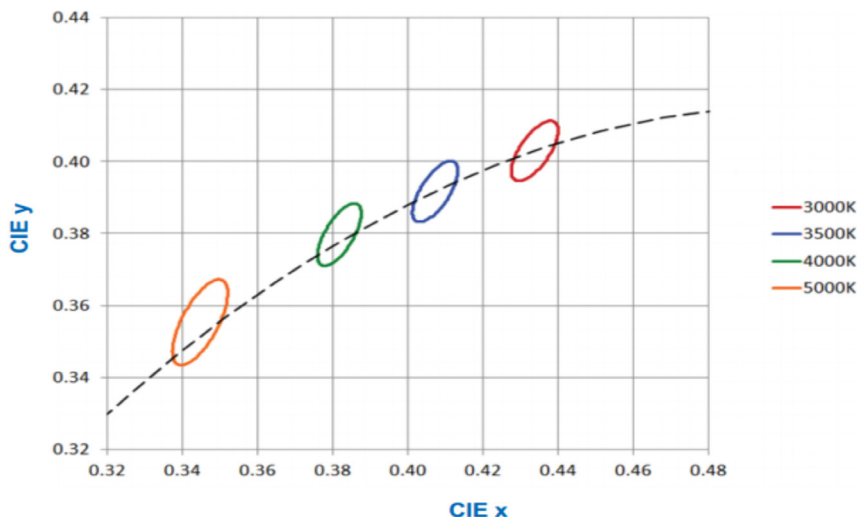
## Product Options

Dimension Designation	Example Application	Typical Lumen Output (lm) per 300m	Dimensions (mm)	Thickness (mm)	CCT (K)	lm/Wrad2
CL-830-LIN01-PC0-0150R	Task/ Linear/High Bay Lighting	629*	150x20x9.5	2.7	3000K	220
CL-830-LIN01-PC0-0300R	Task/ Linear/High Bay Lighting	1250*	300x20x9.5	2.7	3000K	220
CL-830-LIN01-PC0-0450R	Task/ Linear/High Bay Lighting	1250*	450x20x9.5	2.7	3000K	220
CL-830-LIN01-PC0-0600R	Task/ Linear/High Bay Lighting	1250*	600x20x9.5	2.7	3000K	220
CL-830-LIN01-PC0-0900R	Task/ Linear/High Bay Lighting	1250*	900x20x9.5	2.7	3000K	220
CL-830-LIN01-PC0-1200R	Task/ Linear/High Bay Lighting	1250*	1200x20x9.5	2.7	3000K	220
CL-830-LIN01-PC0-1500R	Task/ Linear/High Bay Lighting	1250*	1500x20x9.5	2.7	3000K	220
CL-830-LIN01-PC0-1800R	Task/ Linear/High Bay Lighting	1250*	1800x20x9.5	2.7	3000K	220
CL-840-LIN01-PC0-150R	Task/ Linear/High Bay Lighting	629*	150x20x9.5	2.7	4000K	220
CL-840-LIN01-PC0-300R	Task/ Linear/High Bay Lighting	1250*	300x20x9.5	2.7	4000K	220
CL-840-LIN01-PC0-450R	Task/ Linear/High Bay Lighting	1250*	450x20x9.5	2.7	4000K	220
CL-840-LIN01-PC0-600R	Task/ Linear/High Bay Lighting	1250*	600x20x9.5	2.7	4000K	220
CL-840-LIN01-PC0-900R	Task/ Linear/High Bay Lighting	1250*	900x20x9.5	2.7	4000K	220
CL-840-LIN01-PC0-1200R	Task/ Linear/High Bay Lighting	1250*	1200x20x9.5	2.7	4000K	220
CL-840-LIN01-PC0-1500R	Task/ Linear/High Bay Lighting	1250*	1500x20x9.5	2.7	4000K	220
CL-840-LIN01-PC0-1800R	Task/ Linear/High Bay Lighting	1250*	1800x20x9.5	2.7	4000K	220
CL-927-LIN01-PC0-0150R	Task/ Linear/High Bay Lighting	629*	150x20x9.5	2.7	5000K	220
CL-850-LIN01-PC0-0300R	Task/ Linear/High Bay Lighting	1250*	300x20x9.5	2.7	5000K	220
CL-850-LIN01-PC0-0450R	Task/ Linear/High Bay Lighting	1250*	450x20x9.5	2.7	5000K	220
CL-850-LIN01-PC0-0600R	Task/ Linear/High Bay Lighting	1250*	600x20x9.5	2.7	5000K	220

Dimension Designation	Example Application	Typical Lumen Output (lm) per 300m	Dimensions (mm)	Thickness (mm)	CCT (K)	lm/Wrad2
CL-850-LIN01-PC0-0900R	Task/ Linear/High Bay Lighting	1250*	900x20x9.5	2.7	5000K	220
CL-850-LIN01-PC0-1200R	Task/ Linear/High Bay Lighting	1250*	1200x20x9.5	2.7	5000K	220
CL-850-LIN01-PC0-1500R	Task/ Linear/High Bay Lighting	1250*	1500x20x9.5	2.7	5000K	220
CL-850-LIN01-PC0-1800R	Task/ Linear/High Bay Lighting	1250*	1800x20x9.5	2.7	5000K	220
CL-927-LIN01-PC0-0150R	Task/ Linear/High Bay Lighting	629*	150x20x9.5	2.7	2700K	220
CL-927-LIN01-PC0-0300R	Task/ Linear/High Bay Lighting	1250*	300x20x9.5	2.7	2700K	220
CL-927-LIN01-PC0-0450R	Task/ Linear/High Bay Lighting	1250*	450x20x9.5	2.7	2700K	220
CL-927-LIN01-PC0-0600R	Task/ Linear/High Bay Lighting	1250*	600x20x9.5	2.7	2700K	220
CL-927-LIN01-PC0-0900R	Task/ Linear/High Bay Lighting	1250*	900x20x9.5	2.7	2700K	220
CL-927-LIN01-PC0-1200R	Task/ Linear/High Bay Lighting	1250*	1200x20x9.5	2.7	2700K	220
CL-927-LIN01-PC0-1500R	Task/ Linear/High Bay Lighting	1250*	1500x20x9.5	2.7	2700K	220
CL-927-LIN01-PC0-1800R	Task/ Linear/High Bay Lighting	1250*	1800x20x9.5	2.7	2700K	220

\*Product performance based on reference design. Product specifications subject to change

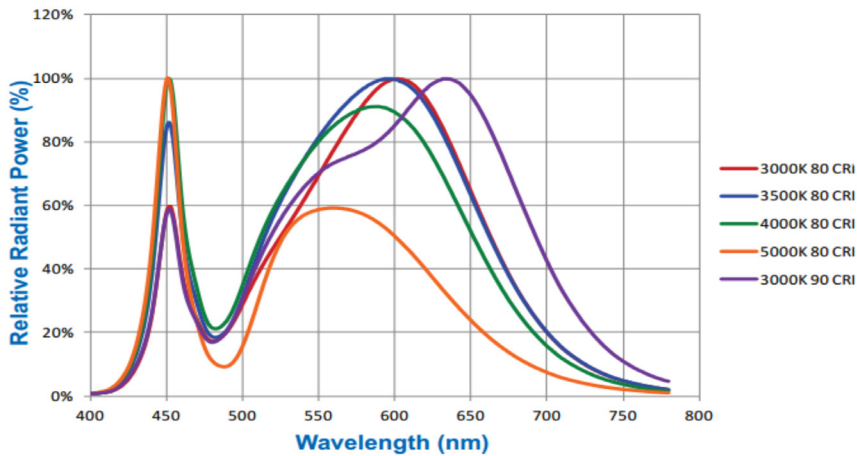
### ChromaLit™ Binning Diagram



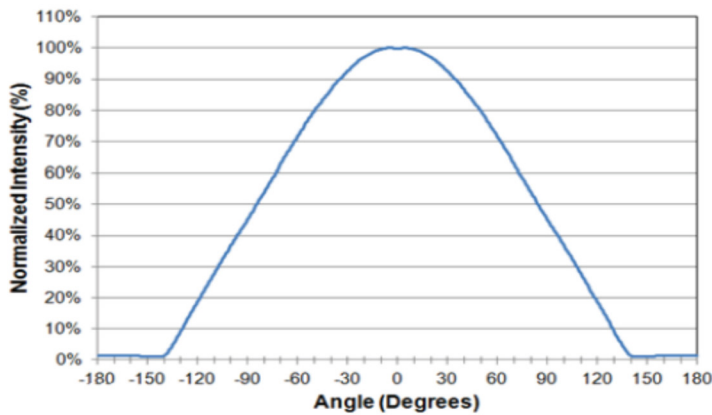
### Centre Points

Nominal CCT (K)	x	y
3000	0.4338	0.403
3500	0.4073	0.3917
4000	0.3818	0.3797
5000	0.3447	0.3553

### Relative Spectral Power Distribution

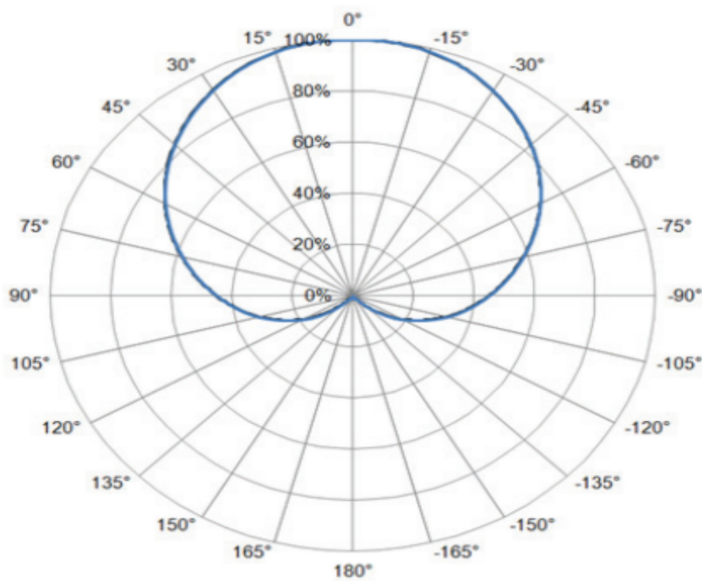


### Luminous Intensity Distribution Diagram



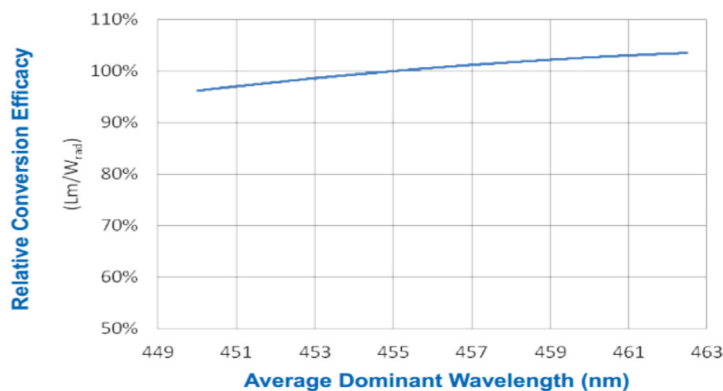
FWHM (Full Width Half Maximum) Beam Angle is 170°

### Luminous Intensity Polar Diagram



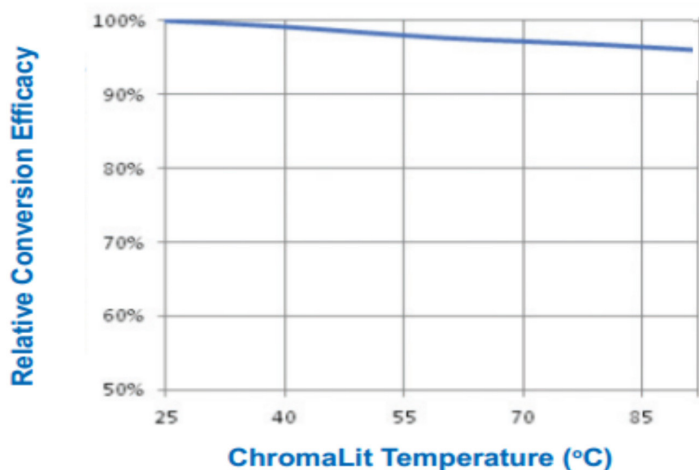
Performance Characteristics

Relative Conversion Efficacy Over Wavelength



<sup>1</sup>Relative conversion efficacy does not reflect performance of Blue LED over dominant wavelength.

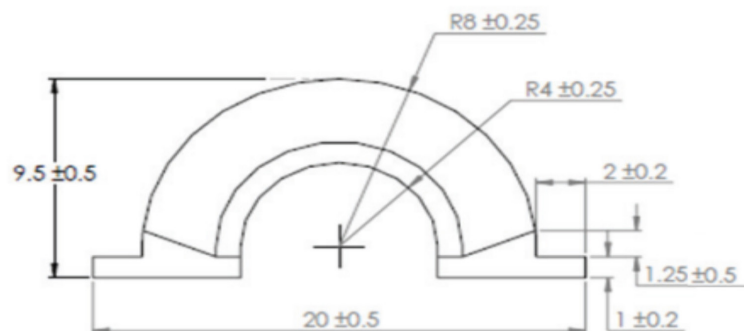
Relative Conversion Efficacy vs. Operating Temperature



Relative CIE Chromaticity Shift Over Wavelength

	Average Dominant Wavelength				
	450nm	452.5nm	455nm	457.5nm	460nm
Δ CIE X Coordinate	-0.003	-0.002	0	0.001	0.001
Δ CIE Y Coordinate	-0.014	-0.007	0	0.005	0.008

Mechanical Drawing



### Absolute Maximum Ratings

Description	Maximum Value
Maximum operating temperature (Tmax <sup>1</sup> )	90°C
Minimum operating temperature	-40°C
Max storage temperature	90°C
Minimum storage temperature	-40°C
Response time to full light output	10µs

<sup>1</sup>Tmax is the maximum temperature measured on the inner surface of ChromaLit™.  
Please consult application guide for additional information on measurement location.

### Reliability and Environmental Ratings

Description	Typical Values
Temperature/Humidity (non-condensing)	60°C 90% RH
Coefficient of Thermal Expansion	70 ppm / °C
Flame Rating <sup>1</sup>	HB
RoHS	RoHS Compliant
REACH	REACH Compliant

<sup>1</sup> Flame rating indicated based on UL rating of bulk material used for ChromaLit Linear. Flammability is dependent on both material and geometry and ChromaLit Linear has been tested to exceed higher flammability ratings in finished lighting products. V0 rated versions available upon request - please contact your Intematix sales representative for additional details.

### Handling Considerations

As a dirty or damaged Phosphor layer could result in alteration in product performance, ChromaLit™ light sources should be handled similarly to most optical components. It is best to handle the parts at the edges and prevent mechanical abrasion. If epoxies are used, they must be kept off of the entrance or exit apertures of ChromaLit™, since they could greatly impact performance. If parts require cleaning, use a lint free tissue, isopropanol (IPA), or mild detergent. Dry using compressed air.

### Safety Information for LED Modules and Accessories

- The LED module itself and all its components must not be mechanically stressed.
- Assembly must not damage or destroy conducting paths on the circuit board.
- The mounting of the module is carried out by attaching it at the mounting holes. Metal mounting screws must be insulated with synthetic washers to prevent circuit board damage and possible short circuiting.
- To avoid mechanical damage to the connecting cables, the boards should be attached securely to the intended substrate. Heavy vibration should be avoided.
- Observe correct polarity!
- Depending on the product, incorrect polarity will lead to emission of red or no light. The module can be destroyed!
- Pay attention to standard ESD precautions when installing the LED.
- LEDs, as manufactured, have no conformal coating and therefore offer no inherent protection against corrosion.
- Damage by corrosion will not be accepted as a materials defect claim. It is the user's responsibility to provide suitable protection against corrosive agents such as moisture and condensation and other harmful elements.
- For outdoor usage, a housing is definitely required to protect the board against environmental influences. The design of the housing must correspond to the IP standards in the application. It is also the responsibility of the user to ensure any housings or modifications keep the Tc junction temperature to within stated ranges.
- To also ease the luminaire/installation approval, electronic control gear for LED or LED modules should carry the CE mark and be ENEC certified. In Europe the declarations of conformity must include the following standards: CE: EC 61374-2-13, EN 55015, IEC 61547 and IEC 61000-3-2 - ENEC: 61374-2-13 and IEC/EN 62384.

- The evaluation of eye safety occurs according to the standard IEC 62471:2006 ("photobiological safety of lamps and lamp systems"). Within the risk grouping system of this CIE standard, the LED specified in this data sheet falls into the class "moderate risk" (exposure time 0.25s). Under real circumstances (for exposure time, eye pupils, observation distance), it is assumed that no endangerment to the eye exists from these devices. As a matter of principle, however, it should be mentioned that intense light sources have a high secondary exposure potential due to their blinding effect. As is also true when viewing other bright light sources (e.g. headlights), temporary reduction in visual acuity and afterimages can occur, leading to irritation, annoyance, visual impairment and even accidents, depending on the situation.

## For further information please contact ILS

The values contained in this data sheet can change due to technical innovations. Any such changes will be made without separate notification.