

# LED LUMINAIRE IN-LINE TEST SYSTEM

## MODEL 58158-SC

The innovative design of the Chroma High-Speed Optical Measurement Module combines several large area detectors summing their response to calculate the total luminous flux of the LED light.

This advanced approach overcomes the drawbacks of traditional total flux measurement solutions yielding the capability of rapid inline production testing.

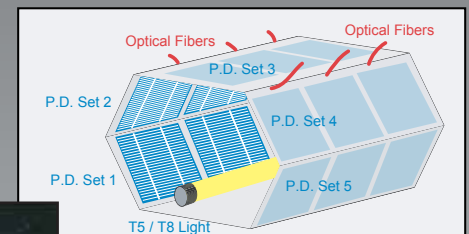
The modular implementation of the Optical Measurement Module allows easy customization to various Luminaires shapes and sizes providing the flexibility and precision required by R&D and Production environments.

### Key Features

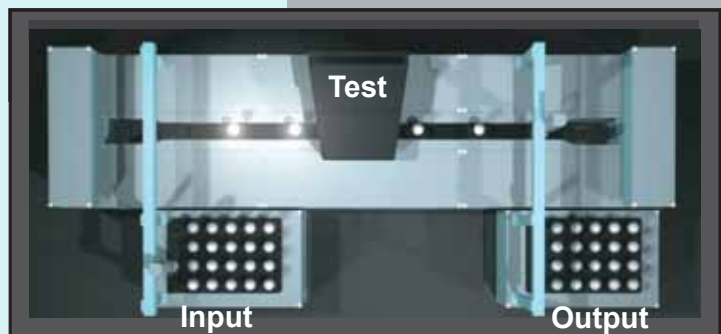
- Supports Mass Production LED Light Applications: Light Bulb, Lightbar, Street Light and other emitting source applications
- Reduced measurement errors
- High-speed Testing
- Flicker Measurements
- Optical Power Distribution Tests
- Compact Size / Small foot print
- Integrates with conveyor systems
- May be provided as a complete automated solution



Chroma 58158-SC  
LED Luminaire Test System



Chroma High-Speed  
Optical Test Module



Chroma LED Bulb  
In-Line Measurement

Chroma

SPECIFICATIONS		
<b>Measurement Items</b>		
Optical Measurement Items		Lumens (lm), mW, Wp, Wd, FWHM, CIE(x,y), CIE(u',v'), CCT, CRI
Electrical Measurement Items		Vdc, Idc, Vrms, Vpeak+, Vpeak-, Irms, Irms+, Irms-, Inrush current, Frequency, Real power P, reactive power VAR, apparent power VA, power factor PF, energy, THD (current and voltage), Vf, If
<b>Optical Measurements</b>		
Photo Detector	Wavelength Range	380 ~ 780 nm
	Lumens Range *1	1 ~ <5000 lm
	Detector Type	2048 Pixels Linear CCD array
Spectrometer	Wavelength Range	380~780 nm
	Slit	100 um
	Resolution (FWHM)	3.8 nm
	Integration Time	1.2 ms ~ 10 sec
	Dynamic Range (Single scan)	2x10 <sup>8</sup>
	Fiber Optic Connector	SMA 905
<b>Electrical AC Source</b>		
Output Rating-AC		500 VA ~ 36 KVA
Voltage	Range/Phase	150 V / 300 V / Auto
	Accuracy	0.2% + 0.2% F.S.
	Resolution	0.1 V
	Distortion	0.3% @ 50 / 60 Hz 1%, 15~1 KHz (Typical)
	Line Regulation	0.10%
Max.Current /Phase	Load Regulation	0.20%
	RMS	32 A / 20 A (150 V / 300 V)
Frequency	Peak	192 A / 96 A (150 V / 300 V)
	Range/Phase	DC, 15~1 KHz
Harmonic-Inter Harmonic Stimulation	Accuracy	0.15%
	Bandwidth	2400 Hz
Additional System Information	Dimensions (HxWxD)	1081 x 532 x 700 mm
	Weight	100 kg
	Power Consumption	300 W
	Electrical Requirements	100 ~ 240 V VAC 50 / 60 HZ
<b>Software Supported DC Sources</b>		
Chroma 52958, Chroma 6200P-300-8, Chroma 11200 (650 V), Chroma 11200 (800 V), Keithley 24XX Series		

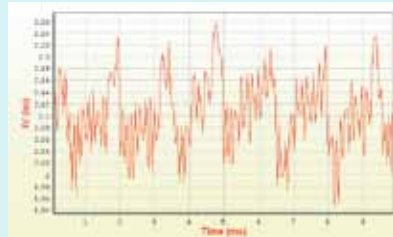
Electrical AC Meter		
AC Voltage	Range	150 / 300 / 500 Vrms (CF = 1.6)
	Accuracy	0.1%+0.05%*KHZ of rdg + 0.08% of rng
	Input Resistance	1 M
AC Current	Range	SHUNT H : 0.2 / 2 / 8 / 20 Arms (CF = 2 @ 0.2 / 2 / 8 A, CF = 4 @ 20 A) SHUNT L : 0.01 / 0.1 / 0.4 / 2 Arms (CF = 4)
	Accuracy *2	SHUNT H : (0.1% + 0.05%*KHz) of rdg + 0.12% rdg SHUNT L & 20A : (0.1%+0.05%*KHz) of rdg + 0.25% rng
	Power	1.5 W ~ 10 KW, 24 ranges
Power	Range (W)	SHUNT H : [0.2% + 0.1%*KHz + (0.3 / PF) %*KHz] of rdg + 0.2% of rdg SHUNT L & 20 A : [0.2% + 0.1%*KHz + (0.3 / PF) %*KHz] of rdg + 0.33% of rdg 300 V x 0.01 A Range : 0.2%of rdg + 7 mW
	Accuracy *3	
Harmonic	Power Factor Accuracy *4	0.006 + (0.003 / PF) KHz
	Range	2 ~ 50 order

Note \*1: Base on 60cm T8/T5 light bar test fixture. Total power test fixtures will be different by luminaires

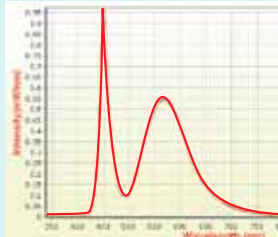
Note \*2: The current accuracy applies temperature range 23 ± 1°C for 0.01 A & 0.2 A (CF = 2). For all other current ranges, the spec. applies under 23 ± 5°C

Note \*3: The 300 V x 0.01 A range is usually used to test No-load condition of UUT

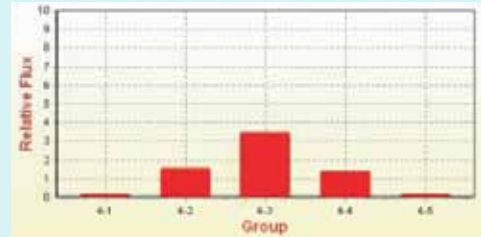
Note \*4: The PF specification applies only when the signals are higher than 50% of the selected voltage and current ranges.



Flicker Analysis



Spectrum Analysis:  
CCT, CRI, Duv, Etc...



Optical Power Distribution

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