

# 1.0" (27.18mm) Monochrome & RGB Illuminators



Parameter	Characteristics (dimensions in mm)		
	AL1010M	SB1010M	AL1010C
Aperture Size (±.25)	21.59 x 16.51	21.59 x 16.51	21.59 x 16.51
Aperture (Diagonal)	27.18	27.18	27.18
Body Dimensions	31.24 x 22.78	31.24 x 22.78	31.24 x 22.78
Height	6.75	12.5	6.75
Weight with 12" Wire	8 ± 2 grams	11 ± 2 grams	8 ± 2 grams
Angular Radiation	± 23° FWHM	± 23° FWHM	± 23° FWHM
Operating Temperature	-40° to +85°C	-40° to +85°C	-40° to +85°C

The ALPHALIGHT™ LED Illuminators provide exceptional high performance uniform light, ideal for non-emissive displays. Bright, highly uniform light is achieved through a unique solid state design using Teledyne's patented and proprietary technology. High optical efficiencies significantly optimize LCD and Spatial Light Modulator (SLM) display performance with lower power consumption.

ALPHALIGHT™ RGB (Full color) LED Illuminators are ideal for color field sequential lighting (CFSL) of non-emissive displays.

The ALPHALIGHT™ is capable of operating in wide temperature ranges and is immune to most vibration and mechanical shock.

The ALPHALIGHT™ LED Illuminators are offered in the Teledyne standard catalog, with custom options available including IR and NVIS.

## Design Implementation Advantages

- Compact, rugged, lightweight
- Fast response < 100 ns on/off address
- Long life span
- Low voltage; power efficient operation
- 15,000:1 dynamic full range dimming
- High optical efficiency
- Eliminates DC-AC inverter/power supply
- No warm-up and no over voltage start
- High reliability

Parameters (Steady State DC) Ta = 25°C	AL1010M				SB1010M				AL1010C
	-R	-G	-B	-W	-R	-G	-B	-W	
Minimum Luminance (fL)	5700	4800	1100	4400	7200	6400	1300	5600	4000
Hue (λ nm) (± 5nm)	625	525	470	Color (±0.02) x = .31-.35, y = .31-.35	625	525	470	Color (±0.02) x = .31-.35, y = .31-.35	Color (±0.02) RED: x=.67-.43, y=.27-.33, GREEN: x=.14-.28, y=.64-.73, BLUE: x=.11-.15, y=.04-.10
Uniformity (Full Aperture)	≤ 1.3:1								
Maximum Power (mW)	800	840		1600	1680		1555		
Drive (VDC) ± .5V	2.5	3.5		2.5	3.5		RED=2.5, GREEN=3.5, BLUE=3.5		
Maximum Current (mA)	320	240		640	480		R: 160, G: 210, B: 120		
Projected Life (Hours)*	≥ 40K	≥ 20K		≥ 40K	≥ 20K		≥ 20K		

\*Additional derating required for elevated temperatures

SPECIFICATIONS ARE SUBJECT TO CHANGE AT ANY TIME WITHOUT NOTICE

Teledyne's ALPHALIGHT™ product is fully patent protected (U.S. Patents #5,440,197, #5,684,354, #5,892,325, #6,043,591 domestically as well as foreign additional patents pending) for this specific application.

For more information, please visit our website at [www.teledynelighting.com](http://www.teledynelighting.com)

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