

## .50" (10.7mm) Monochrome & RGB Illuminators



Parameter	Characteristics (dimensions in mm) AL0505M, C (±.25)
Aperture Size	8.4 x 6.5
Aperture (Diagonal)	10.7
Body Dimensions	18.4 x 14.1
Height	5.46
Weight with Wire (grams)	4 ± .5 grams
Angular Radiation	±23° FWHM
Operating Temperature	-20° 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	AL0505M								AL0505C		
	-1R	-2R	-1G	-2G	-1B	-2B	-1W	-2W	-1	-2	
Minimum Luminance (fL)	5300	7900	5200	9600	900	1500	3800	6700	8000 (EEW: x =.33, y=.33)	12000 (EEW: x =.33, y=.33)	
Hue (λ nm) (± 5nm)	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)	100	200	105	210	105	210	105	210	310	620	
Drive (VDC) (± .5V)	2.5		3.5		3.5		3.5		RED=2.5, GREEN=3.5, BLUE = 3.5		
Maximum Current (mA)	40	80	30	60	30	60	30	60	R: 40, G: 30, B: 30	R: 80, G: 60, B: 60	
Projected Life (Hours)*	≥ 40K		≥ 20K						≥ 20K		≥ 20K

\*Additional derating required for elevated temperatures

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)