

IDEAL-LUME PRO FILTER USE GUIDE & SPECTRAL DATA

Measurement method is of light reflected off a Munsell N7 matte neutral gray reference. Instrument is GretagMacbeth's Eye-One spectroradiometer . Minimum 20 minute warm-up needed on lamp for each measurement. Fluorescent phosphors take time to stabilize when energized.

| <u>Formulation</u> | <u>CCT</u> | <u>D65/0.3127 D65/.3291</u> | | | | | | <u>*Acceptable</u> |
|--------------------------|------------|-----------------------------|----------|------------------|-------------------|-------------------|---------------------|--------------------|
| | | <u>x</u> | <u>y</u> | <u>Y (cd/m2)</u> | <u>xDeviation</u> | <u>yDeviation</u> | <u>Y loss cd/m2</u> | |
| lamp only | 6732K | 0.3098 | 0.3214 | 85.18 | 0.0029 | 0.0077 | | |
| lamp/clear tube | 6723K | 0.3099 | 0.3219 | 84.04 | 0.0028 | 0.0072 | 0.2 | |
| lamp/diffuser | 6556K | 0.3124 | 0.3248 | 79.55 | 0.0003 | 0.0043 | 5.63 | yes |
| diffuser/tube/UV filter | 6316K | 0.3161 | 0.3302 | 75.12 | 0.0034 | 0.0011 | 10.06 | yes |
| tube/UV filter | 6480K | 0.3134 | 0.3268 | 79.89 | 0.0007 | 0.0023 | 5.21 | yes |
| tube/UV/1f-stop filter | 6523K | 0.3128 | 0.3258 | 32.24 | 0.0001 | 0.0033 | 52.98 | yes |
| diffuser/tube/UV/1f-stop | 6476K | 0.3135 | 0.3268 | 28.76 | 0.0008 | 0.0023 | 56.42 | yes |
| tube/UVx2/1f-stop | 6428K | 0.3142 | 0.3283 | 32 | 0.0015 | 0.0008 | 53.18 | yes |
| tube/UV/2f-stop | 6840K | 0.3077 | 0.3231 | 14.69 | 0.005 | 0.006 | 70.49 | |
| tube/UVx2/2f-stop | 6540K | 0.3121 | 0.3288 | 14.05 | 0.0006 | 0.0003 | 71.13 | yes |
| tube/UVx3/3f-stop | 6441K | 0.3127 | 0.338 | 4.91 | 0 | 0.0047 | 80.27 | yes |

We have included the most simple and spectrally accurate filter arrangement pre-assembled in the filter tube. It is composed of one color correcting UV filter and two black films (overlapped and taped together). Slip this assembly over the lamp and rotate the black baffle to regulate illumination output and direction.

The black, light-block film material can be overlapped more to provide a narrower aperture if necessary. Overlap the two sheets along their length and tape together. Roll this assembly up into a tube and slide into the clear retaining tube. The gap that remains will form the aperture. If more light output is desired, simply adjust how much the sheets overlap each other and re-insert into the tube. The tube can be rotated around the lamp to effectively "aim" the aperture and direct the illumination as desired. We still recommend the use of one UV filter with this method. Orient the UV filter closest to the lamp, then the light block film over that, then the clear retaining tube will be outermost. This procedure for controlling the illumination will preserve the optimum spectral power distribution qualities of the lamp.

The additional filters tested above allow for dimming with broader light spread, by using neutral-density theatrical gels. Such filters are not perfectly neutral and require the additional clear UV blocking filters for color correction in varying combinations. GAM brand filters are recommended. Regulate brightness for the SMPTE recommendation for backlighting of less than 10% of the peak white output of the display. Additional filters include: two more UV blocking filters (clear); plus one each of 1, 2 and 3 f-stop ND filters (gray). Always locate the UV filters being used nearest the lamp. This will retard fading of the ND filters over time. Any ND filters used will inevitably need to be replaced. Check them at least annually, for discoloration. The grooved plastic outer diffusion lens is strictly optional. NEVER install or remove the bulb with the fixture powered on. Electrical arcing can occur, which might render the product unusable. **We no longer advise the use of ND filters for critical applications, since they disrupt the exceptional spectral power distribution performance of the lamp.**

*The practical tolerance of deviation for phosphors used in professional video monitors is +/- .005 from the x and y values (SMPTE RP167, A.14).