

REC2020 Filter

Gary Sharp Innovations' REC2020 filter emphasizes primary colors while maintaining spectral balance and neutrality. The REC2020 is the only filter on the market with the combined benefits of steep transitions, deep notches and angle of incidence independence. In image capture and display, the filter expands gamut by trimming the conventional color filter passbands. In high ambient, the filter delivers a 3-5X improvement in ambient rejection. As the REC2020 is a polarization based optic, it also provides glare reduction.

Key Features

- REC2020 color points
- Steep transitions
- High density notching
- AOI independence
- Spatial and color uniformity
- No Moire artefacts
- Also acts as a polarizer

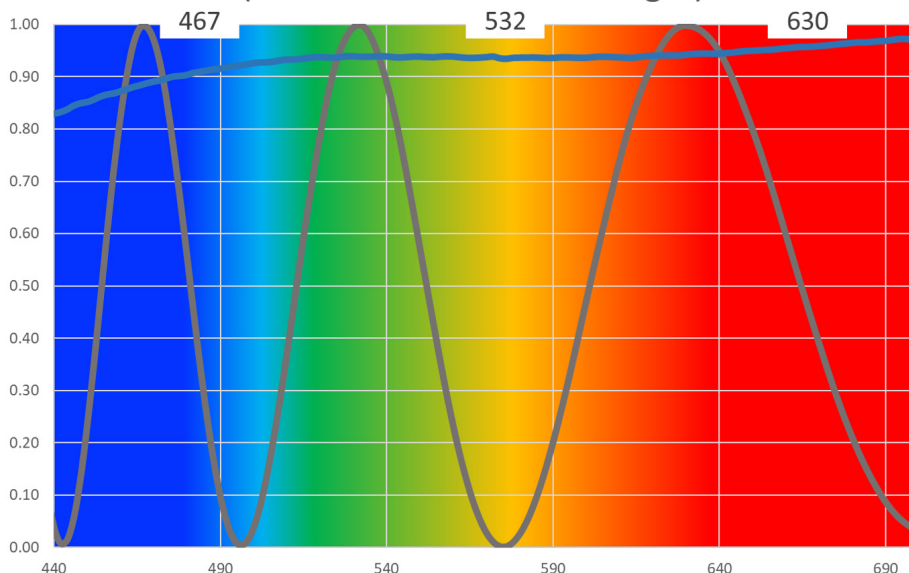
Applications

- Vision enhancement
- Image capture
- Image display (LCD, OLED)
- Sunlight readability
- Color vision research

Reliability

- Temperature
- Humidity

REC2020 Filter and Polarizer
(Transmission Vs Wavelength)



General Filter Performance

Parameter	Description	Units	
Insertion Loss ¹	(Output-Input)/Input at Normal	%	13
Ambient Light Rejection	Signal/Glare	NA	3-5X
Spatial uniformity	Standard deviation of filter peak	nm	1nm
Color Neutrality	Shift in equal energy white point	Δxy	<0.03

REC2020 Color Specific Performance

Parameter	Units	Red	Green	Blue
Lower Null	nm	575	497	443
Lower 50% Point	nm	601	513	454
Peak ²	nm	630	532	467
Upper 50% Point	nm	665	552	481

Reliability Performance

Parameter	Test Condition	Δ Rejection Limit
Heat	80°C for 500 hours	<3.0%
Humidity	60°C @ 90% RH for 500 hours	<5.0%
Ultraviolet	400W Mercury lamp @ 30cm	<3.0%
Cold	-30°C for 500 hours	<3.0%
Thermal Shock	-30°C 70°C 100 cycles	<5.0%

Form Factor and Configuration

Parameter	Description/Units	Value
Filter Dimension (HxWxT)	mm	40X40X1.75
Endcaps	Default, Eagle® Glass (mm)	0.55
AR Coatings (400-700nm)	Default, HEA Coatings (%)	<0.25
Edge Finish	Deburred	
Clear Aperture	From Edge (mm)	1.0

¹ Assuming broadband, polarized light at the input

² Filter peaks match the REC2020 color points



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