DCE APRILIS, Inc.

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DCE Aprilis, Inc. Developmental Holographic Recording Media Products

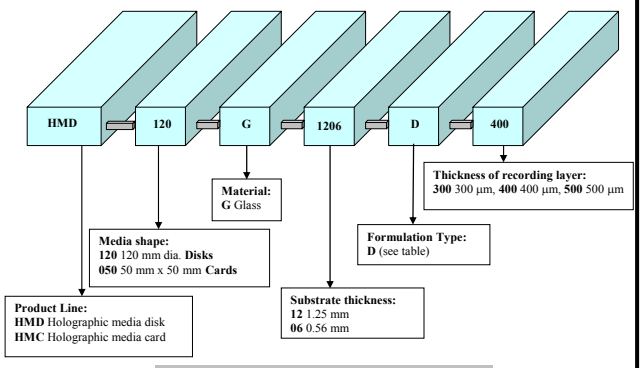
Physical Dimensions

Disk or Coupon Media	Unit	HMD-120-G-1206-D-X	HMC-050-G-1206-D-X
Substrate material		AR coated polished Glass	AR coated polished Glass
Outer diameter (OD)	*mm*	120 (+/- 0.25)	
Disk center hole diameter	*mm*	15.05	
Disk center hole tolerance	*mm*	+0.05/-0	
Edge dimension (l x w)	*mm*		50 x 50 (+/- 0.12)
Substrate thickness	*mm*	1.25/0.56 +/- 0.01	1.25/0.56 +/- 0.01
Refractive index (n_D)		1.52	1.52
Surface reflectivity ($R_{s\text{-}pol}$)	*%*	<0.2 (@0° ± 50°)	<0.2 (@0° ± 50°)
Runout	*µm*	< 10	
Photopolymer thickness (L)	*mm*	0.3, 0.4, 0.5	0.3, 0.4, 0.5
Media Type		Disk	Card
Recordable Outer diameter	*mm*	116	
Recordable Inner diameter	*mm*	45	
Recordable diameter	*mm*		48

Typical Recording Properties (Type D)

Disk or Coupon Media	Unit	Disk	
Wavelength of Sensitivity	*nm*	532	532
<Average Sensitivity> #	*cm/mJ*	1.5	1.5
Dynamic Range *		6.8	6.8
Maximum Shrinkage	*%*	≤ 0.1	≤ 0.1
Absorption (OD post record)		< 0.04	< 0.04
Scatter/µm thickness	*Srad^{-1}*	< 1.0 E-6	< 1.0 E-6
Pre-recording shelf life	*yr*	> 1	> 1
Post-recording data lifetime	*yr*	> 50	> 50

Ordering Information (options below)



Customized Orders Available

* Cumulative Grating Strength, ν_M, attained for ≤ 0.1% shrinkage for M multiplexed holograms recorded in one location, where $M \geq 100$, diffraction efficiency (η_i) for each hologram ~ ≤ 1E-3, and $L = 0.4$ mm.

$$\nu_M = \sum_{i=1}^{M} \sqrt{(\eta_i)} \quad for\ M \text{ multiplexed holograms in same location}$$

\# Average of Recording Sensitivity, < **S** >, normalized to thickness of photopolymer, over typical cumulative recording fluence used for multiplexing M holograms (i.e. $S_{peak} \geq$ **S** ≥ 0.1) for $L = 0.4$ mm

$S = (\eta_i^{0.5}/I_i\ t_i)/L$ in cm/mJ, where L is thickness of the photopolymer material, t_i is the length of the recording time for the i^{th} recording event for M multiplexed holograms, and I_i is the intensity for the i^{th} recording event in mJ/cm^2 for the multiplexed holograms.

For more information contact Eric Kolb at 978-450-1031 Kolb@aprilisinc.com

VALUES OF PROPERTIES NOT FOR USE AS SPECIFICATIONS

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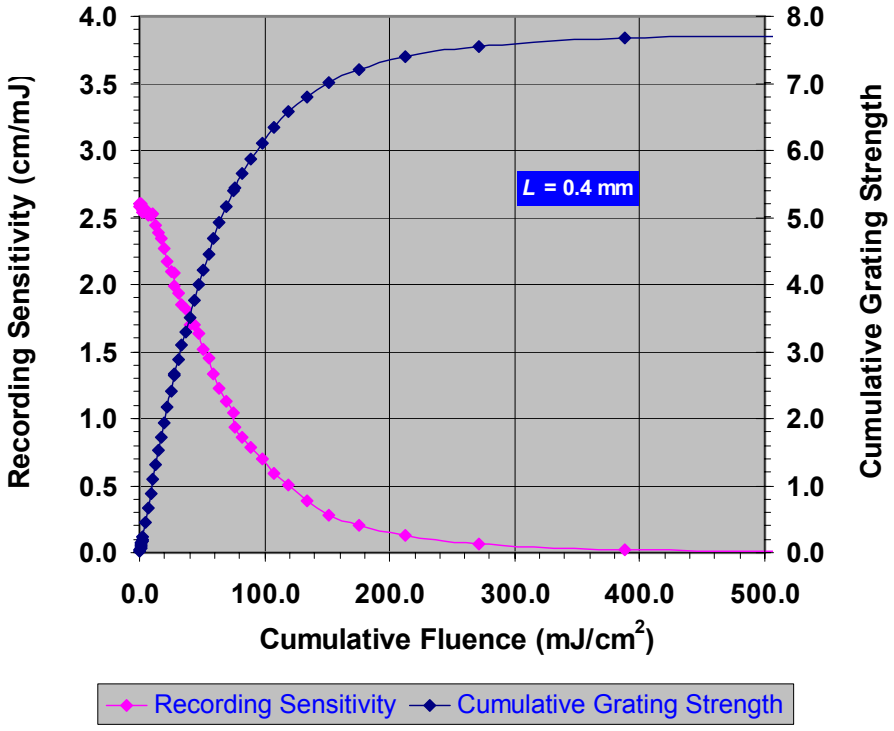
Recording Sensitivity in cm/mJ and Growth in Cumulative Grating Strength versus Cumulative Recording Fluence for Co-locationally Multiplexed Plane-wave Holograms



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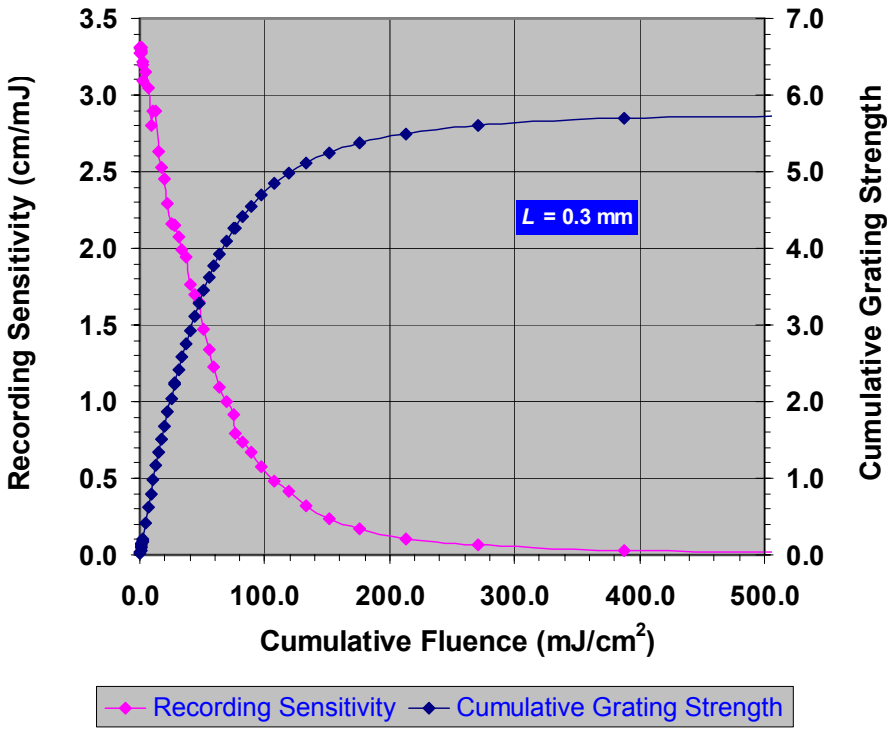

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