PUPILLARY LIGHT REFLEX DIAGNOSTIC CHART

Light Source	R Pupil at rest	L Pupil at rest	Direct PLR R	Direct PLR L	Consensual PLR R	Consensual PLR L	Lesion
Room light	Normal	Normal					No Lesion Normal Eyes
Dark room	Mydriatic	Mydriatic					
L – nasal & temporal				Normal	Normal		
R – nasal & temporal			Normal			Normal	
Comments: Normal response to dazzle is to squint the eyelids closed							
Room Light	Normal	Mydriatic					Optic Nerve L Eye
Dark room	Mydriatic	Mydriatic					
L – nasal & temporal				Absent	Absent Slow		
R – nasal & temporal			Normal			Normal	
Comments:							
Room light	Mydriatic	Normal					Optic Nerve R Eye
Dark room	Mydriatic	Mydriatic					
L – nasal & temporal				Normal	Normal		
R – nasal & temporal			Absent			Absent Slow	
Comments:							
Room light	Mydriatic	Mydriatic					Optic Chiasm
Dark room	Mydriatic	Mydriatic					
L & R – from nasal to temporal			Normal	Normal	Normal	Normal	
L & R- from temporal to nasal			Absent Slow	Absent Slow	Absent Slow	Absent Slow	
Comments: 75% of the fibers from the optic nerve cross in the optic chiasm, and a majority of those fibers originate from the nasal field.							
Room light	Mydriatic	Normal					R CN 3
Dark room	Mydriatic	Mydriatic					
L – nasal & temporal				Normal	Absent		
R – nasal & temporal			Absent			Normal	
Comments: Right ventrolateral strabismus may be present, normal fundic exam rules out retinal disease.							
Room light	Normal	Mydriatic					L CN 3
Dark room	Mydriatic	Mydriatic					
L – nasal & temporal				Absent	Normal		
R – nasal & temporal			Normal			Absent	
Comments: Left ventrolateral strabismus may be present, normal fundic exam rules out retinal disease.							
Room light	Normal	Normal					R Optic Tract
Dark room	Mydriatic	Mydriatic					
L – temporal to nasal				Absent	Absent		
L – nasal to temporal				Normal	Normal		
R – temporal to nasal			Normal			Normal	
R – nasal to temporal			Absent			Absent	
Comments:							
Room light	Normal	Normal					L Optic Tract
Dark room	Mydriatic	Mydriatic					
L – temporal to nasal				Normal	Normal		
L – nasal to temporal				Absent	Absent		
R – temporal to nasal			Absent			Absent	
R – nasal to temporal			Normal			Normal	
Comments:							

Light Source	R Pupil at Rest	L Pupil at Rest	Direct PLR R	Direct PLR L	Consensual PLR R	Consensual PLR L	Lesion
Room Light	Normal	Normal					Cortical Blindness
Dark Room	Mydriatic	Mydriatic					
L – nasal & temporal				Normal	Normal		
R – nasal & temporal			Normal			Normal	
Comments: dazzle reflex is intact							

Light Source	R Pupil at Rest	L Pupil at Rest	Direct PLR R	Direct PLR L	Consensual PLR R	Consensual PLR L	Lesion
Room Light	Normal	Normal					Iris Atrophy
Dark Room	Mydriatic	Mydriatic					
L – nasal & temporal				Slow Absent	Slow Absent		
R – nasal & temporal			Slow Absent			Slow Absent	
Comments: Dazzle Reflex intact, Visual Response intact, will usually see holes in each iris affected, usually bilateral							

Light Source	R Pupil at Rest	L Pupil at Rest	Direct PLR R	Direct PLR L	Consensual PLR R	Consensual PLR L	Lesion
Room Light	Mydriatic	Mydriatic					Diffuse Retinal Bindness
Dark Room	Mydriatic	Mydriatic					
L – nasal & temporal				Absent	Absent		
R – nasal & temporal			Absent			Absent	
Comments: PLR will be slow for first 3-4 days of onset of SARD (Sudden Acquired Retinal Degeneration), eyes are often red with SARD or other inflammatory disease, test for hyperadrenocorticism will be temporarily positive for several months with SARD, dazzle reflex is negative							

Light Source	R Pupil at Rest	L Pupil at Rest	Direct PLR R	Direct PLR L	Consensual PLR R	Consensual PLR L	Lesion
Room Light	Mydriatic	Mydriatic					High Sympathetic Tone
Dark Room	Mydriatic	Mydriatic					
L – nasal & temporal				Slow Absent	Slow Absent		
R – nasal & temporal			Slow Absent			Slow Absent	
Comments: sinus tachycardia is usually present							

Light Source	Pupillary Abnormalities	Lesion
Room Light	**Description:** Both pupils are enlarging and constricting at random, with dynamic anisocoria. **DDx**: FeLV infection affecting CN3PMN and active/changing forebrain edema. In people, can be caused by cirrhosis or renal failure. Also known as hippus and pupillary athetosis.	dysmetric CN3
Room light	**Description:** *Right Eye*: "reverse D pupil" = paraplegia lateral RCN3; "D pupil" = paraplegia medial RCN3; *Left Eye*: "reverse D pupil" = paraplegia medial LCN3; "D pupil" = paraplegia lateral LCN3 **DDx**: FeLV infection, trauma, infiltrative disease (mass, infectious, inflammatory)	Paralysis/paraplegia of medial or lateral branch CN3
Room light	**Description:** pupils of significantly different size **Lesion localization:** see PLR chart on opposite page – Also lateralized forebrain lesion, lateralized brain stem lesion, FeLV infection or other peripheral neuropathy, anywhere along PLR (CN2, optic chiasm, optic tract, subcortical forebrain, CN3, iris), anywhere along Horner's Syndrome Pathway (). See also Horner's Syndrome below.	Anisocoria
Room light	**Description:** miosis, ptosis, enopthosis, prolapsed 3rd eyelid; almost never bilateral. **Lesion Localization:** brain stem, cervicothoracic spinal cord, thorax, neck, middle ear, inner ear, periorbital tissues, eye, iris	Horner's Syndrome (loss of sympathetic tone to eye)