



Projector Buyer's Guide to Color Brightness by Model

Projector buyers should proceed with caution.

Derived when presentations consisted of a black font on a white background, the old lumens metric only measures white light. Lumens, or brightness, tells the projector buyer little about the brightness of colors in photos, videos or graphics.

Fortunately, a newer metric gives projector buyers a measurement for the brightness of colors. Color Light Output, or more simply Color Brightness, quantifies the brightness of Red, Green and Blue; the primary colors of light.

The photograph below shows two projectors setup side-by-side, set in their brightest mode. Both offer similar resolution, price and white brightness levels.

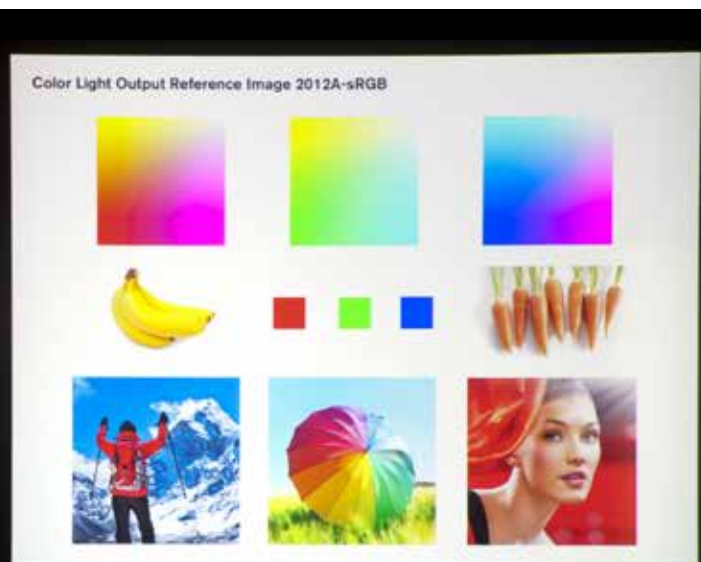
The projector on the left exhibits low Color Brightness; only a fraction of its white brightness. The one on the right shows equal amounts of Color and White Brightness. Colors on the right are much brighter, providing more impact.

This document starts with a listing of projectors where the manufacturer specifies both White and Color Brightness. Second is a table containing projectors measured for their Color Brightness level by a 3rd party laboratory because the manufacturer did not specify the color brightness.

Insist on brighter colors. When selecting a projector, consider both the brightness of White as well as the brightness of Color.

Low Color Brightness¹

High Color Brightness



Actual photograph of side by side projected images from an identical signal source. Both projectors are set to their brightest mode. Testing and photography conducted by Lumita Inc.

Table 1: Models with Manufacturer Specification for Color Brightness

Many manufacturers provide specifications for both White Light Output (White Brightness) and Color Light Output (Color Brightness). Manufacturers publish specifications on product performance and are responsible for their legitimacy and reliability. See manufacturer's websites or contact the manufacturer for details.

	White Brightness	Color Brightness		White Brightness	Color Brightness		White Brightness	Color Brightness
Dukane			EX6210	2700	2700	PowerLite 1980WU	4400	4400
ImagePro 8104	2500	2500	EX6220	3000	3000	PowerLite 1985WU	4800	4800
ImagePro 8107	2500	2500	EX7210	2800	2800	PowerLite 2040	4200	4200
ImagePro 8112	3000	3000	EX7220	3000	3000	PowerLite 2042	4400	4400
ImagePro 8755	2400	2400	EX7230	3000	3000	PowerLite 2065	5500	5500
ImagePro 8928	2700	2700	EX7235	3000	3000	PowerLite 2140W	4200	4200
ImagePro 8930	3200	3200	EX7240	3200	3200	PowerLite 2142W	4200	4200
ImagePro 8931	3000	3000	EX7260	3600	3600	PowerLite 2155W	5000	5000
ImagePro 8932	3200	3200	EX9200	3200	3200	PowerLite 2165W	5500	5500
ImagePro 8933	3000	3000	EX9210	3400	3400	PowerLite 2245U	4200	4200
ImagePro 8957	4000	4000	EX9220	3600	3600	PowerLite 2247U	4200	4200
ImagePro 8958	4000	4000	EV-100/105	2000	2000	PowerLite 2250U	5000	5000
ImagePro 8959	5000	5000	MegaPlex MG-850HD	2800	2800	PowerLite 2255U	5000	5000
ImagePro 8970	5000	5000	MovieMate 85HD	2500	2500	PowerLite 2265U	5500	5500
ImagePro 8971	6000	6000	PC 4040	2200	2200	PowerLite 4100	4500	4500
ImagePro 8972	4000	4000	PC 6040UB	2500	2500	PowerLite 420	2500	2500
ImagePro 8973	5500	5500	PC LS10500	1500	1500	PowerLite 4200W	4500	4500
ImagePro 8974	4200	4200	PowerLite 107	3500	3500	PowerLite 425W	2500	2500
ImagePro 8975	5000	5000	PowerLite 108	3700	3700	PowerLite 430	3000	3000
ImagePro 8977	7000	7000	PowerLite109W	4000	4000	PowerLite 4300	5200	5200
ImagePro 8979	6000	6000	PowerLite 1221	2800	2800	PowerLite 435W	3000	3000
Epson			PowerLite 1222	3000	3000	PowerLite 4650	5200	5200
BrightLink 436Wi	3000	3000	PowerLite 1224	3200	3200	PowerLite 470	2600	2600
BrightLink 450Wi	2500	2500	PowerLite 1261W	2800	2800	PowerLite 475W	2600	2600
BrightLink 475Wi	2600	2600	PowerLite 1262W	3000	3000	PowerLite 4750W	4200	4200
BrightLink 485Wi	3100	3100	PowerLite 1263W	3000	3000	PowerLite 4770W	5000	5000
BrightLink 536Wi	3400	3400	PowerLite 1264	3200	3200	PowerLite 480	3000	3000
BrightLink 575Wi	2700	2700	PowerLite 1266	3600	3600	PowerLite 485W	3100	3100
BrightLink 585Wi	3300	3300	PowerLite 1284	3200	3200	PowerLite 4855WU	4000	4000
BrightLink 595Wi	3300	3300	PowerLite 1286	3600	3600	PowerLite 520	2700	2700
BrightLink 685Wi	3500	3500	PowerLite 1751	2600	2600	PowerLite 525W	2800	2800
BrightLink 695Wi	3500	3500	PowerLite 1761W	2600	2600	PowerLite 530	3200	3200
BrightLink 696Ui	3800	3800	PowerLite 1770W	3000	3000	PowerLite 535W	3400	3400
BrightLink 697Ui	4400	4400	PowerLite 1771W	3000	3000	PowerLite 5510	5500	5500
BrightLink 710Ui	4000	4000	PowerLite 1776W	3000	3000	PowerLite 5520W	5500	5500
BrightLink Pro 1410Wi	3100	3100	PowerLite 1780W	3000	3000	PowerLite 5530U	5500	5500
BrightLink Pro 1420Wi	3300	3300	PowerLite 1781W	3200	3200	PowerLite 5535U	5500	5500
BrightLink Pro 1430Wi	3300	3300	PowerLite 1785W	3200	3200	PowerLite 570	2700	2700
BrightLink Pro 1450Ui	3800	3800	PowerLite 1795F	3200	3200	PowerLite 575W	2700	2700
BrightLink Pro 1460Ui	4400	4400	PowerLite 1835	3500	3500	PowerLite 580	3200	3200
BrightLink Pro 1470Ui	4000	4000	PowerLite 1850W	3700	3700	PowerLite 585W	3300	3300
EX3212	2800	2800	PowerLite 1880	4000	4000	PowerLite 675W	3200	3200
EX3220	3000	3000	PowerLite 1925W	4000	4000	PowerLite 680	3500	3500
EX3240	3200	3200	PowerLite 1930	4200	4200	PowerLite 685W	3500	3500
EX3260	3300	3300	PowerLite 1940W	4200	4200	PowerLite 700U	4000	4000
EX5210	2800	2800	PowerLite 1945W	4200	4200	PowerLite 905	3000	3000
EX5220	3000	3000	PowerLite 1950	4500	4500	PowerLite 915W	3200	3200
EX5230	3500	3500	PowerLite 1955	4500	4500	PowerLite 93+	2600	2600
EX5240	3200	3200	PowerLite 1960	5000	5000	PowerLite 935W	3700	3700
EX5250	3600	3600	PowerLite 1965	5000	5000	PowerLite 95	2600	2600
EX5260	3600	3600	PowerLite 1975W	5000	5000	PowerLite 955WH	3200	3200

Table 1: Continued

	White Brightness	Color Brightness		White Brightness	Color Brightness		White Brightness	Color Brightness
Epson (Continued)			PL HC 3500	2500	2500	PL Pro G7805	8000	8000
PowerLite 965	3500	3500	PL HC 3600e	2500	2500	PL Pro G7900U	7000	7000
PowerLite 965H	3500	3500	PL HC 3700	3000	3000	PL Pro G7905U	7000	7000
PowerLite 96W	2700	2700	PL HC 3900	2700	2700	PL Pro L1100U	6000	6000
PowerLite 97	2700	2700	PL HC 4000	2200	2200	PL Pro L1200U	7000	7000
PowerLite 97H	2700	2700	PL HC 500	2600	2600	PL Pro L1300U	8000	8000
PowerLite 970	4000	4000	PL HC 5010	2400	2400	PL Pro L1405U	8000	8000
PowerLite 975W	3600	3600	PL HC 5020UB	2400	2400	PL Pro L1500U	12000	12000
PowerLite 98	2700	2700	PL HC 5020UBe	2400	2400	PL Pro L1505U	12000	12000
PowerLite 98H	3000	3000	PL HC 5030UB	2400	2400	PL Pro L1715S	15000	15000
PowerLite 980W	3800	3800	PL HC 5030UBe	2400	2400	PL Pro L1750U	15000	15000
PowerLite 99W	3000	3000	PL HC 5040UB	2500	2500	PL Pro L1755U	15000	15000
PowerLite 99WH	3000	3000	PL HC 5040UBe	2500	2500	PL Pro L25000U	25000	25000
PowerLite 990U	3800	3800	PL HC 640	3200	3200	PL Pro Z8000WUNL	6000	6000
PowerLite D6150	3500	3500	PL HC 660	3300	3300	PL Pro Z8050WNL	7000	7000
PowerLite D6155W	3500	3500	PL HC 707	2700	2700	PL Pro Z8150NL	8000	8000
PowerLite D6250	4000	4000	PL HC 710HD	2800	2800	PL Pro Z8250NL	10000	10000
PowerLite L400U	4500	4500	PL HC 725HD	2800	2800	PL Pro Z8255NL	10000	10000
PowerLite L500W	5000	5000	PL HC 730HD	3000	3000	PL Pro Z8350WNL	8500	8500
PowerLite L510U	5000	5000	PL HC 740HD	3000	3000	PL Pro Z8450WUNL	7000	7000
PowerLite L610	6000	6000	PL HC 750HD	3000	3000	PL Pro Z8455WUNL	7000	7000
PowerLite L610U	6000	6000	PL HC 760HD	3300	3300	PL Pro Z9750UNL	7500	7500
PowerLite L610W	6000	6000	PL HC 8345	1800	1800	PL Pro Z9800WNL	8300	8300
PowerLite L615U	6000	6000	PL HC 8350	2000	2000	PL Pro Z9870NL	8700	8700
PowerLite S11	2600	2600	PL HC LS100	4000	4000	PL Pro Z9870UNL	8700	8700
PowerLite S17	2700	2700	PL Presenter	2500	2500	PL Pro Z9900WNL	9200	9200
PowerLite S27	2700	2700	PL Pro C4030	2000	2000	PL Pro Z10000UNL	10000	10000
PowerLite S39	3300	3300	PL Pro C6020UB	2400	2400	PL Pro Z10005UNL	10000	10000
PowerLite W16	3000	3000	PL Pro C6030UB	2400	2400	PL Pro Z11000WNL	11000	11000
PowerLite W16SK	6000	6000	PL Pro C9350	2000	2000	PL Pro Z11005NL	11000	11000
PowerLite W17	2800	2800	PL Pro G5450WU	4000	4000	VS210	2600	2600
PowerLite W29	3000	3000	PL Pro G5550	4500	4500	VS220	2700	2700
PowerLite W39	3500	3500	PL Pro G5650W	4500	4500	VS230	2800	2800
PowerLite X12	2800	2800	PL Pro G6050W	5500	5500	VS240	3000	3000
PowerLite X15	3000	3000	PL Pro G6070W	5500	5500	VS250	3200	3200
PowerLite X17	2700	2700	PL Pro G6150	6500	6500	VS315W	2600	2600
PowerLite X27	2700	2700	PL Pro G6170	6500	6500	VS320	2700	2700
PowerLite X39	3500	3500	PL Pro G6270W	6500	6500	VS330	2700	2700
PL HC 1040	3000	3000	PL Pro G6450WU	4500	4500	VS335W	2700	2700
PL HC 1060	3200	3200	PL Pro G6470WU	4500	4500	VS340	2800	2800
PL HC 1440	4400	4400	PL Pro G6550WU	5200	5200	VS345	3000	3000
PL HC 1450	4200	4200	PL Pro G6570WU	5200	5200	VS350	3300	3300
PL HC 2000	1800	1800	PL Pro G6750WU	6000	6000	VS350W	3700	3700
PL HC 2030	2000	2000	PL Pro G6770WU	6000	6000	VS355	3300	3300
PL HC 2040	2200	2200	PL Pro G6800	7000	7000	VS410	4000	4000
PL HC 2045	2200	2200	PL Pro G6870	7000	7000	EB-107	3500	3500
PL HC 2100	2500	2500	PL Pro G6900WU	6000	6000	EB-108	3700	3700
PL HC 2150	2500	2500	PL Pro G6970WU	6000	6000	EB-109W	4000	4000
PL HC 3000	2300	2300	PL Pro G7000W	6500	6500	EB-1420Wi	3300	3300
PL HC 3010e	2200	2200	PL Pro G7100	6500	6500	EB-1430Wi	3300	3300
PL HC 3020	2300	2300	PL Pro G7200W	7500	7500	EB-1440Ui	3800	3800
PL HC 3020e	2300	2300	PL Pro G7400U	5500	5500	EB-1450Ui	3800	3800
PL HC 3100	2600	2600	PL Pro G7500U	6500	6500	EB-1460Ui	4400	4400

Table 1: Continued

	White Brightness	Color Brightness		White Brightness	Color Brightness		White Brightness	Color Brightness
Epson (Continued)			EB-585W	3300	3300	EB-G7000W	6500	6500
EB-1470Ui	4000	4000	EB-585Wi	3300	3300	EB-G7100	6500	6500
EB-1751	2600	2600	EB-590WT	3300	3300	EB-G7200W	7500	7500
EB-1761W	2600	2600	EB-595Wi	3300	3300	EB-G7400U	5500	5500
EB-1771W	3000	3000	EB-670	3100	3100	EB-G7500U	6500	6500
EB-1776W	3000	3000	EB-675Wi	3200	3200	EB-G7800	8000	8000
EB-1780W	3000	3000	EB-680	3500	3500	EB-G7805	8000	8000
EB-1781W	3200	3200	EB-680Wi	3500	3500	EB-G7900	7000	7000
EB-1785W	3200	3200	EB-685W	3500	3500	EB-G7900U	7000	7000
EB-1795F	3200	3200	EB-685Wi	3500	3500	EB-G7905U	7000	7000
EB-1930	4200	4200	EB-695Wi	3500	3500	EB-L1100U	6000	6000
EB-1935	4200	4200	EB-696Ui	3800	3800	EB-L1105U	6000	6000
EB-1940W	4200	4200	EB-700U	4000	4000	EB-L1200U	7000	7000
EB-1945W	4200	4200	EB-710Ui	4000	4000	EB-L1300U	8000	8000
EB-1950	4500	4500	EB-935W	3700	3700	EB-L1405U	8000	8000
EB-1955	4500	4500	EB-940H	3000	3000	EB-L1500U	12000	12000
EB-1960	5000	5000	EB-945	3000	3000	EB-L15000U	12000	12000
EB-1965	5000	5000	EB-945H	3000	3000	EB-L1505U	12000	12000
EB-1970W	5000	5000	EB-950WH	3000	3000	EB-L1510S	12000	12000
EB-1975W	5000	5000	EB-950WHV	3000	3000	EB-L1515S	12000	12000
EB-1980WU	4400	4400	EB-955W	3000	3000	EB-L1710S	15000	15000
EB-1985WU	4800	4800	EB-955WH	3200	3200	EB-L1715S	15000	15000
EB-2040	4200	4200	EB-965	3500	3500	EB-L1750U	15000	15000
EB-2042	4400	4400	EB-965H	3500	3500	EB-L1755U	15000	15000
EB-2055	5000	5000	EB-97H	2700	2700	EB-L25000U	25000	25000
EB-2065	5500	5500	EB-970	4000	4000	EB-L400U	4500	4500
EB-2140W	4200	4200	EB-98	3000	3000	EB-L500W	5000	5000
EB-2142W	4200	4200	EB-98H	3000	3000	EB-L510U	5000	5000
EB-2155W	5000	5000	EB-980W	3800	3800	EB-L610	6000	6000
EB-2165W	5500	5500	EB-99WH	3000	3000	EB-L610U	6000	6000
EB-2245U	4200	4200	EB-990U	3800	3800	EB-L610W	6000	6000
EB-2247U	4200	4200	EB-D6150	3500	3500	EB-L615U	6000	6000
EB-2250U	5000	5000	EB-D6155W	3500	3500	EB-S03	2700	2700
EB-2255U	5000	5000	EB-D6250	4000	4000	EB-S04	3000	3000
EB-2265U	5500	5500	EB-G6050W	5500	5500	EB-S05	3200	3200
EB-4550	4500	4500	EB-G6070W	5500	5500	EB-S17	2700	2700
EB-4650	5200	5200	EB-G6150	6500	6500	EB-S18	2900	2900
EB-4750W	4200	4200	EB-G6170	6500	6500	EB-S27	2700	2700
EB-4770W	5000	5000	EB-G6250W	6500	6500	EB-S29	3000	3000
EB-4850WU	4000	4000	EB-G6270W	6500	6500	EB-S31	3200	3200
EB-4950WU	4500	4500	EB-G6350	7000	7000	EB-S39	3300	3300
EB-520	2700	2700	EB-G6370	7000	7000	EB-S41	3300	3300
EB-525W	2800	2800	EB-G6450WU	4500	4500	EB-U04	3000	3000
EB-530	3200	3200	EB-G6470WU	4500	4500	EB-U05	3400	3400
EB-535W	3400	3400	EB-G6550WU	5200	5200	EB-U32	3200	3200
EB-536Wi	3400	3400	EB-G6570WU	5200	5200	EB-U42	3600	3600
EB-536WT	3400	3400	EB-G6650WU	6000	6000	EB-W03	2700	2700
EB-5510	5500	5500	EB-G6750WU	6000	6000	EB-W04	3000	3000
EB-5520W	5500	5500	EB-G6770WU	6000	6000	EB-W05	3300	3300
EB-5530U	5500	5500	EB-G6800	7000	7000	EB-W8D	2500	2500
EB-570	2700	2700	EB-G6870	7000	7000	EB-W16	3000	3000
EB-575Wi	2700	2700	EB-G6900WU	6000	6000	EB-W16SK	6000	6000
EB-580	3200	3200	EB-G6970WU	6000	6000	EB-W22	3000	3000

Table 1: Continued

	White Brightness	Color Brightness		White Brightness	Color Brightness		White Brightness	Color Brightness
Epson (Continued)			EH-TW6700W	3000	3000	VPL-EW225	2600	2600
EB-W28	3000	3000	EH-TW6800	2800	2800	VPL-EW246	3100	3100
EB-W29	3000	3000	EH-TW7200	2000	2000	VPL-EW276	3700	3700
EB-W31	3200	3200	EH-TW7300	2300	2300	VPL-EX225	2700	2700
EB-W32	3200	3200	EH-TW8200	2400	2400	VPL-EX246	3200	3200
EB-W39	3500	3500	EH-TW8200W	2400	2400	VPL-EX276	3700	3700
EB-W42	3600	3600	EH-TW8300	2500	2500	VPL-FH30	4300	4300
EB-W420	3000	3000	EH-TW8300W	2500	2500	VPL-FH31B	4300	4300
EB-X03	2700	2700	EH-TW9200	2400	2400	VPL-FH31W	4300	4300
EB-X04	2800	2800	EH-TW9200W	2400	2400	VPL-FH36B	5200	5200
EB-X05	3300	3300	EH-TW9300	2500	2500	VPL-FH36W	5200	5200
EB-X18	3000	3000	EH-TW9300W	2500	2500	VPL-FH500L	7000	7000
EB-X20	2700	2700	Hitachi			VPL-FX30	4200	4200
EB-X24	3200	3200	CP-A222WN	2200	2200	VPL-FX35	5000	5000
EB-X25	3500	3500	CP-A352WN	3500	3500	VPL-FX37	6000	6000
EB-X27	2700	2700	CP-AW2519N	2500	2500	VPL-FX500L	7000	7000
EB-X29	3000	3000	CP-AW2519NM	2500	2500			
EB-X30	3500	3500	CP-AW252WN	2500	2500			
EB-X31	3200	3200	CP-AW312WN	3000	3000			
EB-X39	3500	3500	CP-D31N	3000	3000			
EB-X36	3600	3600	CP-D32WN	3200	3200			
EB-X41	3600	3600	CP-EW300	3000	3000			
EB-Z9750WU	7500	7500	CP-SX8350	5000	5000			
EB-Z9800W	8300	8300	CP-WU8440	4200	4200			
EB-Z9870U	8700	8700	CP-WU8450	5000	5000			
EB-Z9875U	8700	8700	CP-WU8460	6000	6000			
EB-Z9900W	9200	9200	CP-WUX8441	5000	5000			
EB-Z10000U	10000	10000	CP-WUX8460	6000	6000			
EB-Z10005U	10000	10000	CP-WX2515WN	2700	2700			
EB-Z11000	11000	11000	CP-WX3015WN	3000	3000			
EB-Z11000W	11000	11000	CP-WX3030WN	3000	3000			
EB-Z11005	11000	11000	CP-WX4022WN	4000	4000			
EH-5600	2500	2500	CP-WX8240	4000	4000			
EH-5650	2500	2500	CP-WX8240A	4000	4000			
EH-LS100	4000	4000	CP-WX8255A	5500	5500			
EH-LS10000	1500	1500	CP-X2521WN	2700	2700			
EH-LS10500	1500	1500	CP-X2530WN	2700	2700			
EH-TW490	3000	3000	CP-X3021WN	3200	3200			
EH-TW5100	1800	1800	CP-X3030WN	3200	3200			
EH-TW5200	2000	2000	CP-X4015WN	4000	4000			
EH-TW5210	2200	2200	CP-X4022WN	4000	4000			
EH-TW530	3000	3000	CP-X5022WN	5000	5000			
EH-TW5300	2200	2200	CP-X8150	5000	5000			
EH-TW5350	2200	2200	CP-X8160	6000	6000			
EH-TW570	3000	3000	CP-X8170	7000	7000			
EH-TW6100	2300	2300	Sony			VPL-CW275	5100	5100
EH-TW630	3300	3300	VPL-CX275	5200	5200	VPL-DW120	2600	2600
EH-TW6300	2600	2600	VPL-DW126	2600	2600	VPL-DX120	2600	2600
EH-TW640	3300	3300	VPL-DX120	2600	2600	VPL-DX140	3200	3200
EH-TW650	3200	3200	VPL-DX140	3200	3200	VPL-DX146	3200	3200
EH-TW6600	2500	2500						
EH-TW6600W	2500	2500						
EH-TW6700	3000	3000						

Table 2: Models Tested by 3rd Party Laboratory for Color Brightness

The manufacturers in table two have not provided Color Light Output (Color Brightness) specifications. These models were tested by third party laboratories (Intertek, Lumita, & TPR) in accordance with IDMS 15.4 in order to provide critical information to buyers.

	White Brightness	Tested Color Brightness		White Brightness	Tested Color Brightness		White Brightness	Tested Color Brightness
3M			HT2050A	2200	1450	MW632ST	3200	600
MP225A	32	30	HT2150ST	2200	1280	MW665	3200	650
AAXA			HT2550	2200	1200	MW705	4000	840
M6	1200	610	HT3050	2000	1130	MW721	3500	810
MP-300-03	550	150	HT4050	2000	1230	MW727	4200	830
P2 Jr.	55	30	HT8050	2200	1500	MW732	4000	850
P3	50	20	Joybee GP2	200	30	MW769	4200	950
P300	300	140	LU9715	8000	2900	MW814ST	2500	770
P4-X	95	40	LW61ST	2000	550	MW824ST	3200	590
P450	450	190	MH530	3200	670	MW843UST	3000	560
Acer			MH530FHD	3300	600	MW851UST	2500	460
C120	100	90	MH535A	3600	650	MW853UST	3200	860
H5360	2500	600	MH630	3000	770	MW855UST	3500	1050
H5370BD	2500	570	MH680	3000	700	MW860USTi	3000	480
H5380BD	3000	660	MH740	4000	730	MW870UST	3000	530
H6500	2100	720	MH741	4000	810	MW883UST	3300	700
H6502BD	3400	650	MH750	4500	820	MX503	2700	830
H6510BD	3000	580	MH760	5000	1050	MX505	3000	640
H7850	3000	870	MH856UST	3500	1200	MX511	2700	700
K132	500	130	MP512	2200	610	MX518	2800	720
P1173	3000	590	MP515	2500	750	MX520	3000	610
P1185	3200	750	MP522	2000	540	MX522	3000	430
P1273	3000	710	MP522ST	2000	590	MX525	3200	430
P1283	3000	650	MP525P	2500	840	MX525A	3300	560
P1383W	3100	660	MP622	2700	1090	MX570	3200	380
P1387W	4500	850	MP622C	2200	1010	MX613ST	2500	660
P1500	3000	530	MP780ST	2500	600	MX620ST	3000	630
P5271	3100	700	MS502	2700	760	MX632ST	3200	490
P5515	4000	720	MS504	3000	700	MX660P	3000	790
P7505	5000	980	MS510	2700	730	MX661	3000	680
X110P	2700	700	MS513	2700	700	MX711	3200	770
X113PH	3000	710	MS514H	3200	740	MX723	3700	660
X1161P	2700	720	MS517	2800	700	MX726	4000	870
X1163	3000	720	MS521	3000	460	MX731	4000	600
X117H	3600	750	MS524	3200	670	MX763	3700	830
X1211K	2500	670	MS524A	3300	720	MX764	4200	980
X123PH	3000	670	MS524AE	3300	600	MX806PST	3000	560
X1240	2700	650	MS535A	3600	550	MX810ST	2500	490
X1261P	2700	640	MS612ST	2500	710	MX815ST	2700	720
X1373WH	3000	560	MS614	2700	710	MX816ST	3000	640
Acto			MU686	3500	650	MX819ST	3000	520
DX221ST	3200	470	MU706	4000	720	MX850UST	2500	400
ASUS			MW516	2800	670	PU9530	6000	2000
S1	200	120	MW519	2800	700	SH915	4000	780
BenQ			MW523	3000	430	SH940	4000	1160
CH100	1000	800	MW526	3200	620	SP840	4000	480
HC1200	2800	1740	MW526A	3300	660	SU917	5000	900
HT1070	2000	1200	MW526AE	3300	700	SU922	5000	1280
HT1070A	2200	900	MW529E	3300	720	SX920	5000	1150
HT1075	2200	1390	MW535A	3600	650	TH530	3200	680
HT1085ST	2200	1390	MW571	3200	670	TH670	3000	610
HT2050	2200	1450	MW612	4000	740	TH671ST	3000	700
			MW621ST	3000	530	TH681	3000	840

Table 2: Continued

	White Brightness	Tested Color Brightness		White Brightness	Tested Color Brightness		White Brightness	Tested Color Brightness
BenQ (Continued)			S300wi	2200	480	IN2124a	3500	820
TH683	3200	620	S500wi	3200	880	IN2124x	4200	760
TK800	3000	550	S560	3400	800	IN2126	3200	840
W1070	2000	1570	Hitachi			IN2128HDa	3500	740
W1080ST	2000	1470	CP-DX250	2500	480	IN3102	3000	840
W1090	2000	1500	CP-DX300	3000	650	IN3104	3500	1010
W1500	2200	1440	LP-WU3500	3500	1200	IN3114	3500	910
W7000	2000	1500	LP-WU6500	5000	1800	IN3116	3500	930
W770ST	2500	680	LP-WU9750B	8000	2300	IN3124	4800	1050
Canon			InFocus			IN3126	4000	760
LV-S300	3000	620	IN102	2500	740	IN3128HD	4000	590
LV-WX300	3000	700	IN1110	2100	530	IN3138HD	4000	720
LV-X300	3000	630	IN1110a	2100	550	IN3138HDa	4000	600
LX-MU500Z	5000	1750	IN1112	2200	590	IN3144	5000	850
LX-MU800Z	8000	2900	IN1112a	2200	530	IN35	2500	840
Casio			IN1116	2400	550	IN37	3000	970
XJ-A130	2000	540	IN1116LC	2400	460	IN3914	2700	730
XJ-A141	2500	1200	IN1118HD	2400	470	IN5312	4500	1190
XJ-A246	2500	1340	IN112	2700	640	Work Big IN24+	2400	720
XJ-A252	3000	1170	IN112a	3000	700	Work Big IN26+	2400	640
XJ-A256	3000	1370	IN112x	3200	670	Work Big IN32	2000	940
XJ-F10X	3300	1740	IN112xa	3500	600	Work Big IN34	2500	670
XJ-F100W	3500	1230	IN112xv	3400	680	Work Big IN36	3000	870
XJ-F20XN	3300	1580	IN114	2700	660	LG		
XJ-F210WN	3500	1420	IN114a	3000	670	BS-275	2700	700
XJ-H1700	4000	770	IN114ST	2700	560	HF80JA	2000	530
XJ-M140	2500	1440	IN114x	3200	640	PA75U	700	230
XJ-M151	3000	1640	IN114xa	3500	500	PA77U	700	300
XJ-M240	2500	1280	IN114xv	3400	500	PB63U	500	220
XJ-M245	2500	1160	IN1146	1000	250	PF1000U	1000	250
XJ-M251	3000	1650	IN116	2700	630	PF1500	1400	400
XJ-ST145	2500	510	IN116a	3000	660	PH300W	300	200
XJ-UT310WN	3100	1890	IN116x	3200	630	PH550	550	300
XJ-UT351W	3500	2180	IN116xa	3500	600	PW800	800	340
XJ-V1	2700	1360	IN116xv	3400	700	Mimio		
XJ-V10X	3300	1790	IN118HDa	3000	400	mimioProjector	2800	550
XJ-V100W	3000	1580	IN119HDx	3200	590	Miroir		
XJ-V110W	3500	1990	IN122	3200	760	M300A	400	200
XJ-V2	3000	1670	IN122a	3500	800	Mitsubishi		
Christie			IN124	3200	840	EX240U	2500	510
D13WU-HS	13500	6000	IN124a	3500	710	HC1500	1600	720
DHD400S	3500	940	IN124ST	3000	690	HC4000	1300	400
DHD800	8000	2000	IN124x	4000	830	HC7800D	1500	1090
Dell			IN126	3200	810	HD4000U	2000	690
1220	2700	550	IN126ST	3000	630	WD380U-EST	2800	660
1409X	2500	820	IN126STa	3300	700	XD211U	2200	660
1450	3000	640	IN128HDx	4000	670	XD221U	2300	810
1510X	3500	770	IN1338HD	4000	690	XD221U-ST	2000	650
1610HD	3500	910	IN2102	2500	760	XD250U	2700	1050
2400MP	3000	710	IN2104	2500	650	XD3500U	5000	940
4320	4300	1080	IN2112	3000	750	XD360U-EST	2500	350
M110	300	80	IN2114	3000	760	XD460U	2600	850
M115HD	450	120	IN2116	3000	730	XD490U	3000	780
M900HD	900	180	IN2124	3200	800	XD500U	2200	640
						XD700U	5000	850

Table 2: Continued

	White Brightness	Tested Color Brightness		White Brightness	Tested Color Brightness		White Brightness	Tested Color Brightness
NEC			DH1012	3200	780	HD20	1700	1020
NP110	2200	640	DS331	3200	500	HD23	2500	680
NP200	2100	480	DS339	2600	760	HD25E	2800	420
NP40	2200	830	DS550	2600	650	HD25-LV	3500	670
NP4001	4500	1640	DU380	3800	630	HD26	3200	670
NP4100	6200	1950	DW326e	3000	710	HD27	3200	600
NP50	2600	740	DX326	2800	710	HD27e	3400	560
NP60	3000	790	DX346	3000	690	HD28DSE	3000	630
NP61	3000	700	DX550	2600	640	HD29Darbee	3200	630
NP-M282X	2800	810	EH200ST	3000	500	HD33	1800	940
NP-M283X	2800	780	EH320USTi	4000	660	HD37	2600	1980
NP-M322W	3200	810	EH331	3300	640	HD39Darbee	3500	1100
NP-M322X	3200	870	EH341	3500	680	HD65	1600	650
NP-M323W	3200	950	EH345	3200	670	HD66	2500	710
NP-M323X	3200	910	EH400+	4000	900	ML300	300	130
NP-M333XS	3300	920	EH415	4200	800	ML500	500	140
NP-M352WS	3500	1020	EH415ST	3500	800	ML550	500	150
NP-M353WS	3500	900	EH416	4200	620	ML750	700	110
NP-M363W	3600	950	EH500	4700	1000	ML1000P	1000	170
NP-M363X	3600	890	EH501	5000	430	PK320	100	60
NP-M402H	4000	1060	EH503	5000	1190	PRO150S	2800	810
NP-M402X	4000	1030	EH504	5000	1050	PRO160S	3000	810
NP-M403H	4000	770	EH615T	6200	750	PRO250X	2800	740
NP-M403X	4000	1000	EH7700	7000	1900	PRO260X	3000	770
NP-P502H	5000	1300	EP1691	2500	820	PRO360W	3000	820
NP-PE401H	4000	1020	EP716	1800	510	PT100	50	10
NP-PX750U	7500	1250	EP719	2000	600	PT110	100	20
NP-PX750U+	7500	660	EP721	2200	550	S303	3000	670
NP-PX800X	8000	1890	EP727	2200	590	S310e	3200	730
NP-U260W	2600	540	EP728	2700	810	S316	3200	710
NP-U300X	3000	770	EP771	3000	930	S321	3200	570
NP-U310W	3100	690	ES522	2800	660	S341	3500	620
NP-U321H	3200	650	EW1691e	3000	770	S343	3600	750
NP-V260	2600	620	EW536	2800	700	TS526	2800	700
NP-V260W	2600	620	EW695UT	3500	780	TS551	2800	640
NP-V260X	2600	640	EX525ST	2500	570	TW766W	4000	800
NP-V300W	3000	740	EX530	2600	650	TX536	2800	670
NP-V300X	3000	740	EX532	2800	650	TX542	2800	680
NP-V302H	3000	530	EX551	2800	640	TX631-3D	3500	850
NP-V332W	3300	620	EX685UT	3000	620	UHD50	2400	1000
NP-V332X	3300	580	EX765	4000	810	UHD51A	2400	1000
NP-VE281	2800	590	EX784	5000	1060	UHD60	3000	1000
NP-VE281X	2800	700	EX785	5000	1300	UHD65	2200	1200
NP-VE303	3000	700	GT1080	2800	500	W303	3200	500
NP-VE303X	3000	630	GT5500	3500	690	W304M	3100	780
P502HL	5000	2000	GT750e	3000	950	W305ST	3200	490
P502HL-2	5000	1250	GT760	3400	600	W306ST	3500	730
PX-602UL	6000	2200	H180X	3000	660	W307UST	3500	660
PX-750U2	7500	2200	H181X	3200	580	W311	3200	490
PX-803UL	8000	2900	H182X	3200	760	W312	3200	710
V311W	3100	690	HD131Xe	2500	480	W316	3400	660
V311X	3100	720	HD131Xw	2500	650	W316ST	3400	640
Optoma			HD141X	3000	700	W331	3200	620
DH1009	3200	590	HD142X	3000	700	W335	3800	650
DH1011	3000	640	HD143X	3000	560	W341	3600	780

Table 2: Continued

	White Brightness	Tested Color Brightness
Optoma (Continued)		
W345	3300	710
W351	3800	810
W355	3600	720
W400	4000	900
W415	4500	800
W416	4500	650
WU334	3600	700
WU416	4200	630
WU515	6000	1300
X303	3000	410
X304M	3000	620
X305ST	3000	540
X306ST	3200	680
X312	3200	610
X313	3000	710
X316	3200	590
X341	3300	560
X343	3600	650
X345	3200	670
X351	3600	700
X355	3500	680
X400+	4000	780
X416	4300	800
X600	6000	1070
X605	6000	1500
ZH510T	5000	1200
ZU510T	5300	1100
ZU510T-W	5500	1700
ZW210ST	2000	410
ZW212ST	2500	390
ZX210ST	2000	360
ZX212ST	2500	280
Panasonic		
PT-CW230EA	2500	550
PT-D5700U	6000	3050
PT-DW830UW	8500	3400
PT-DZ570U	4000	2240
PT-DZ6710	6000	2990
PT-DZ770UK	7000	2340
PT-DZ780B	7000	3200
PT-DZ870UK	8500	3700
PT-JW130H	1000	600
PT-JX200HWU	2000	1200
PT-LS26U	2600	670
PT-RW330U	3500	750
PT-RW430UK	3500	800
PT-RZ370U	3500	840
PT-RZ470UW	3500	830
PT-RZ570	5200	2700
PT-RZ570BU	5400	2050
PT-RZ670U	6500	3700
PT-RZ970	9400	5200
PT-SD2600C	2600	670

	White Brightness	Tested Color Brightness
Philips		
PicoPix PPX2340	40	30
Promethean		
PRM-35	2500	600
Ricoh		
PJ HD5450	3500	730
PJ S2240	3000	710
PJ WX2240	3100	700
PJ WX4240N	3000	540
PJ X2240	3000	690
Sharp		
PG-F212X	2300	860
PG-LW2000	2800	770
PG-LW3000	3000	870
PG-LX2000	2800	790
XR-30X	2300	740
XR-32X	2500	750
XR-41X	2600	660
Smart		
LightRaise 40Wi	2500	750
LightRaise 60Wi	2500	620
SLR60Wi2	3000	670
UX60	2000	730
Toshiba		
TDP-T45U	2500	670
ViewSonic		
LS820	3500	1460
PA502S	3500	750
PA502X	3500	780
PA503S	3600	790
PA503W	3600	760
PA503X	3600	770
PG703W	4000	910
PG703X	4000	850
PG705HD	4000	710
PG800HD	5000	1100
PJ506D	2000	630
PJD5123	2700	730
PJD5132	2800	730
PJD5133	2700	700
PJD5134	3000	670
PJD5153	3200	770
PJD5155	3300	900
PJD5223	2700	680
PJD5232	2800	580
PJD5233	2700	640
PJD5234	2800	640
PJD5234L	3000	690
PJD5255	3300	940
PJD5255L	3300	850
PJD5353LS	3200	830
PJD5523W	2700	620
PJD5533W	2800	740
PJD5553LWS	3200	840

	White Brightness	Tested Color Brightness
PJD5555W	3300	860
PJD6220	2300	640
PJD6252L	3300	650
PJD6350	3300	730
PJD6352LS	3200	850
PJD6383S	3000	720
PJD6531W	3000	940
PJD6544W	3500	750
PJD6552LWS	3200	890
PJD6553W	3500	870
PJD6683WS	3000	830
PJD7525W	4000	1020
PJD7533W	4000	710
PJD7583W	3000	730
PJD7720HD	3200	730
PJD7820HD	3000	830
PJD7822HDL	3200	750
PJD7828HDL	3200	770
PLED-W500	500	120
PLED-W600	600	250
PLED-W800	800	250
Pro7827HD	2200	1310
Pro8200	2000	780
Pro8300	3000	720
Pro8400	4000	1030
Pro8450W	4500	980
Pro8500	5000	1300
Pro8520HD	5000	780
PX747-4K	3500	730
Vivitek		
D512-3D	2600	560
D5280	4500	900
D530	3200	790
D535	3200	620
D536-3D	3200	610
D537W	3200	720
D538W-3D	3200	680
D554	3000	650
D555	3000	670
D557WH	3000	640
D791ST	3000	340
D795WT	3000	320
D803W-3D	3600	680
D832MX	3200	780
D865W	4000	670
D910HD	3000	710
D940VX	4300	930
D966HD	4500	910
DH758USTIR	3500	700
DW868	4500	760
H1180HD	2000	880
H1186	2000	1490
HK2288	2000	930
Qumi Q2	300	50
Qumi Q3 Plus	500	200

Table 2: Continued

	White Brightness	Tested Color Brightness
Vivitek (Continued)		
Qumi Q5	500	80
Qumi Q6	800	130
Qumi Q7	800	130
ZTE		
Spro 2	200	190

What's behind this new Color Brightness standard?

Color Light Output, or simply Color Brightness, measures the illuminance of the color primaries Red, Green and Blue. The technical details of this measurement methodology are defined in the newly available Information Display Measurements Standard published by the Society for Information Displays.

The authors of this important standards document were volunteers from all corners of the display industry. These experts carefully examined each of the nearly 200 display metrics in the document to make sure each was relevant, scientifically valid, and worth including in the document.

The Society for Information Displays (SID) is a globally recognized organization working to help educate technical members of the display industry. SID was founded as a Professional Society back in 1962. SID is made up today of about 5,000 display professionals.



More information about this document can be found at: <http://www.icdm-sid.org/>

Why does the standard only measure Red, Green and Blue? What about all the other colors?

Computers and media players define colors as relative levels of Red, Green and Blue. For example, yellow is stored inside the computer as bright red, bright green and no blue.

Regardless of how the projector may create its image, the standard input signal is based on Red, Green and Blue and therefore it's important to measure these standard color primaries.

What does the Brightness metric we've used for years represent?

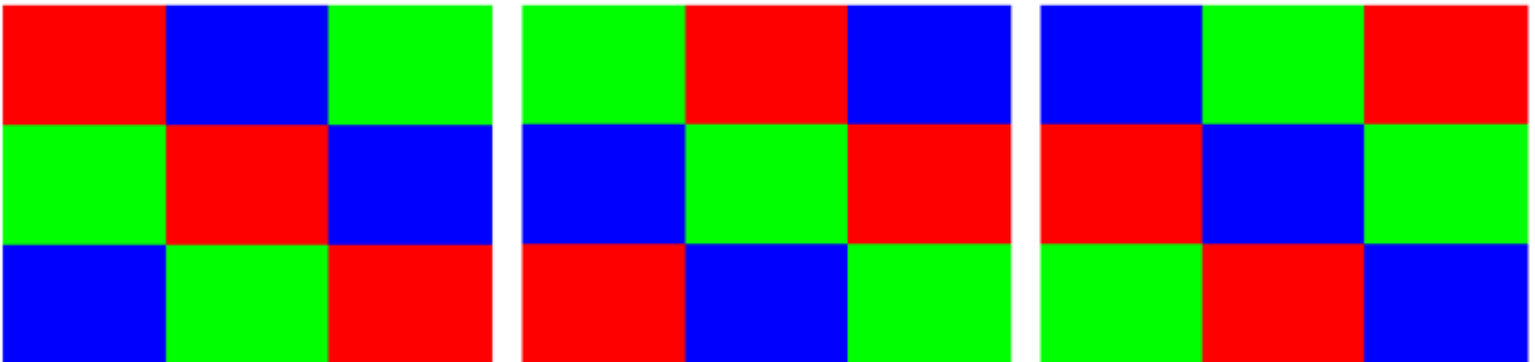
Brightness, or technically Light Output, is only a measurement of white light. To measure brightness, projector makers will take nine brightness readings across the entire image. The average of the nine measurements is multiplied by the screen area in square meters to determine the projector's lumen output.

How is Color Brightness measured?

Color Light Output is measured almost exactly the same way as "Brightness" or white light output...but instead of measuring white light, the primary colors are measured.

Instead of just nine measurements, there are total of 27 measurements taken, with the three sample images below.

The brightness of Red, Green and Blue are averaged, summed and multiplied by the screen area to determine the total amount of Color Brightness.



¹ Actual photographs of images produced by two competing projectors set to the brightest mode. Price and resolution are the same for both projectors. Projector on the left is a 1-Chip DLP rated by the manufacturer at 2700 lumens of White Brightness; it measured 700 lumens of Color Brightness. The projector on the right is a 3LCD projector rated at 2600 lumens (Color Brightness) and 2600 lumens (White Brightness).

² The data in Table 1 was obtained from Projector Central based on information available from these manufacturers.

³ The White Brightness data in Table 2 was obtained through Projector Central, as specified by the manufacturers. These manufacturers do not provide Color Brightness (Color Light Output) data. Color Brightness was determined in compliance with IDMS 15.4 by 3rd party laboratory testing of a single unit of each model. Serial numbers available upon request.