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Voltage Distribution Ratio

The characteristic values tabulated in the catalog for the individual tube types are measured with the voltage-divider networks having the voltage distribution ratio shown below.

Distribution Ratio Codes	Number of Stage	Voltage Distribution Ratio (K : Photocathode Dy : Dynode P: Anode G : Grid)																
	8	K	G	Dy1	Dy2	Dy3	Dy4	Dy5	Dy6	Acc	Dy7	Dy8	P					
①		2	—	2	1	1	1	1	1	—	1	1						
②		1	1	1	1	1	1	1	1	—	1	1						
③		1.3	4.8	1.2	1.8	1	1	1	1	0.5	3	2.5						
④		3	—	1.5	1	1	1	1	1	—	1	1						
⑤		3	—	1.5	1.5	1	1	1	1	—	1	1						
⑥		7	—	1	1.5	1	1	1	1	—	1	1						
⑦		4	0	1	1.4	1	1	1	1	—	1	1						
⑧		2	2	1	1	1	1	1	1	—	1	1						
⑨		1	—	1	1	1	1	1	1	—	1	0.5						
	9	K	G_1	G_2	G_3	Dy1	Dy2	Dy3	Dy4	Dy5	Dy6	Dy7	Dy8	Dy9	P			
⑩		1	—	—	—	1	1	1	1	1	1	1	1	1				
⑪		3	1	—	—	1	1	1	1	1.5	1	1	1	1				
⑫		5	0	3	0	1	1	1	1	1	1	1	1	1				
	10	K	G	Dy1	Dy2	Dy3	Dy4	Dy5	Dy6	Dy7	Dy8	Dy9	Dy10	P				
⑬		1	—	1	1	1	1	1	1	1	1	1	1					
⑭		1	1	1	1	1	1	1	1	1	1	1	1					
⑮		1.5	—	1	1	1	1	1	1	1	1	1	1					
⑯		2	—	1	1	1	1	1	1	1	1	1	1					
⑰		2	—	1	1.5	1	1	1	1	1	1	1	0.75					
⑱		3	—	1	1	1	1	1	1	1	1	1	1					
⑲		3	—	1	1.5	1	1	1	1	1	1	1	1					
⑳		3	—	1.5	1	1	1	1	1	1	1	1	1					
㉑		4	—	1	1.5	1	1	1	1	1	1	1	1					
㉒		1.3	4.8	1.2	1.8	1	1	1	1	1	1.5	3	2.5	(Note 2)				
㉓		1.5	—	1.5	1.5	1	1	1	1	1	1	1	0.5					
㉔		1.5	—	1.5	1.5	1	1	1	1	1	1	1	1					
		K	Dy1	F2	F1	F3	Dy2	Dy3	Dy4	Dy5	Dy6	Dy7	Dy8	Dy9	Dy10	P		
㉕		11.3	0	0.6	0	3.4	5	3.33	1.67	1	1	1	1	1	1			
	11	K	G	Dy1	Dy2	Dy3	Dy4	Dy5	Dy6	Dy7	Dy8	Dy9	Dy10	Dy11	P			
㉖		1	—	1	1	1	1	1	1	1	1	1	1	1				
㉗		8	0.05	1	1	1	1	1	1	1	1	1	1	1				
	12	K	G	Dy1	Dy2	Dy3	Dy4	Dy5	Dy6	Dy7	Dy8	Dy9	Dy10	Dy11	Dy12	P		
㉘		1	1	1	1	1	1	1	1	1	1	1	1	1	1			
㉙		1.2	2.8	1.2	1.8	1	1	1	1	1	1	1.5	1.5	3	2.5			
㉚		2	—	1	1	1	1	1	1	1	1	1	1	1	1			
㉛		4	0	1	1.4	1	1	1	1	1	1	1	1	1	1	(Note 1)		
㉜		4	0	2.5	1.5	1	1	1	1	1	1	1	1	1	1			
㉝		1	3	1.2	1.8	1	1	1	1	1	1	1.5	1.5	3	2.5			
㉞		4	0	1.2	1.8	1	1	1	1	1	1	1	1	1	1			
㉟		6	0	1	1.4	1	1	1	1	1	1	1	1	1	1			
㊱		1	—	1	1	1	1	1	1	1	1	1	1	1	1			
	14	K	G_1	G_2	Dy1	Dy2	Dy3	Dy4	Dy5	Dy6	Dy7	Dy8	Dy9	Dy10	Dy11	Dy12	Dy13	Dy14	P
㊲		2.5	7.5	0	1.2	1.8	1	1	1	1	1	1	1	1	1.5	1.5	3	2.5	
	15	K	Dy1	Dy2	Dy3	Dy4	Dy5	Dy6	Dy7	Dy8	Dy9	Dy10	Dy11	Dy12	Dy13	Dy14	Dy15	P	
㊳		2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1		
	16	K	Dy1	Dy2	Dy3	Dy4	Dy5	Dy6	Dy7	Dy8	Dy9	Dy10	Dy11	Dy12	Dy13	Dy14	Dy15	Dy16	P
㊴		2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
	19	K	Dy1	Dy2	Dy3	·	·	·	·	·	·	·	·	·	·	·	·	Dy17	Dy18	Dy19	P
㊵		2	1	1	1	·	·	·	·	·	·	·	·	·	·	·	·	1	1	1	1

Note 1 : The shield pin should be connected to Dy5.
2 : Acc to be connected to Dy7

Replacement Information

* : The same dimensional outline, base connection and electric characteristics.
** : The similar electric characteristics and the same dimensional outline and base connection.
*** : The similar electric but different dimensional outline and/or different base connection.

BURLE	Hamamatsu
Side-On Types	
1P21	1P21* R105** R105UH**
1P28	1P28*
1P28/V1	R212* 1P28**
1P28A	1P28A*
1P28A/V1	R372**
1P28B	R1516*
4473	R372**
4526	R1923*
4832	R636-10***
4840	R446*
931A, 931VA	931A*
931B	931B* R105**
C31004, C31004A	R406*
Head-On Types	
4501/V3	R331-05*
4516	R1166*** R1450*** R3478***
4856	R2154-02***
4900	R1307***
4903	R1387***
5819	R2154-02***
6199	R980***
6342A	R2154-02***
6342A/V1	R2154-02***
6655A	R2154-02***
8575	R329-02**
8644	R1617***
8850	R329***
C31000AJ[4]	R4607-01***
C31000AP[4]	R4607-01***
C31000AJ-175[5]	R4607-01***
C31000AP-175[5]	R4607-01***
C31000M	R2256***
C31016G[4]	R1288***
C31016H[4]	R1288***
C31034	R943-02***
C31034-02	R943-02***
C31034-06	R943-02***
C31034A	R943-02***
C31034A-02	R943-02***
C31034A-05	R943-02***
S83006E	R877***
S83010E	R980***
S83010EM1	R3886***
S83049F	R1307**
S83050E	R980***
S83050EM1	R3886***
S83054F	R1306**
S83068E	R8427***
9661B	1P28* 931A** 1P21**

EMI	Hamamatsu
Side-On Types	
9781B	1P28* R212**
9781R	R372**
9783B	R106*
9785B	R446*
9785QB	R456*
9786QB	R456**
Head-On Types	
9078B	R1166**
9082B	R1450**
9102KB, 9902KB 9903KB	R580**
9110BFL	R1288**
9111B, 9112B	R1924**
9113B	R1925**
9124B, 9125B, 9128B	R6427***
9135B	R5800***
9207B	R4607-01***
9214KB	R1828-01***
9250KB, 9257KB, 9266KB	R2154-02**
9330KB, 9390KB	R877**
9353B	R5912***
9524B, 9766B, 9924B	R6249**
9530KB, 9791KB	R877***
9558B	R375***
9659B	R669***
9734B	R6249***
9758KB	R1307***
9789B, 9844B	R464***
9792KB	R877***
9798B	R374**
9807KB, 9813KB	R1828-01***
9814B	R329-02***
9815B	R5496***
9820QB	R331***
9821B, 9921B	R6091***
9822B	R6091***
9823KB	R1250**
9826B	R1450*** R3478***
9828B	R5929**
9829B, 9849B	R331-05*
9829QB, 9849QB	R331*
9865B	R649***
9881B	R1450*** R3478***
9882B	R1617***
9884B, 9887B	R329-02***
9893KB/350	R3234-01***
9899B	R331-05***
9972KB, 9973KB	R1387**

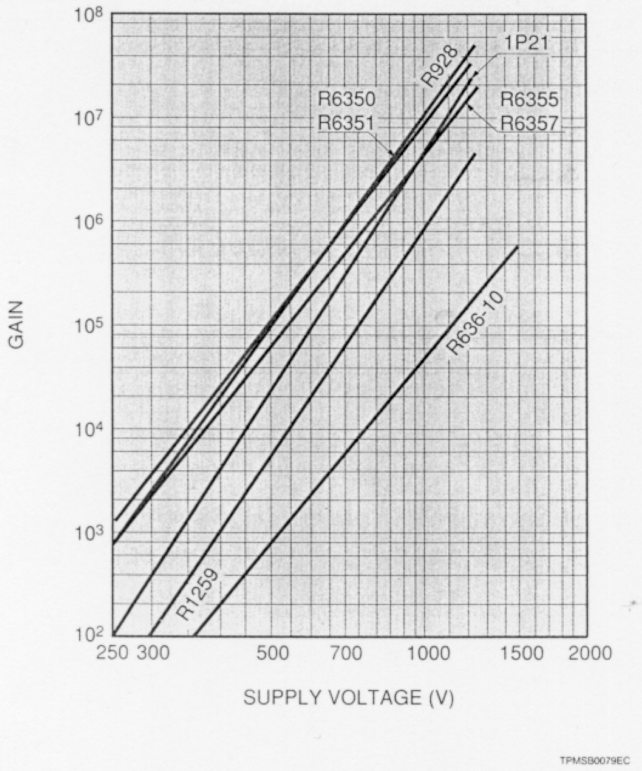
Philips	Hamamatsu
XP1911	R1166** R1450* R3478***
XP1918	R2076*** R762**
XP2012B, XP2072B	R580**
XP2013B	R1387***
XP2015B	R1767***
XP2017B	R2066***
XP2020	R1828-01*
XP2020/Q	R2059*
XP2041/100	R1584*
XP2050	R877***
XP2052B	R980**
XP2202B	R2154-02**
XP2203B	R3256**
XP2206B	R4607-01***
XP2262B	R329-02***
XP2282B	R2083***
XP2312B	R6091***
XP2802	R1166***
XP2971, XP2972	R6427**
XP2978	R7057**
XP3462B	R6091***
XP4512B	R4144***

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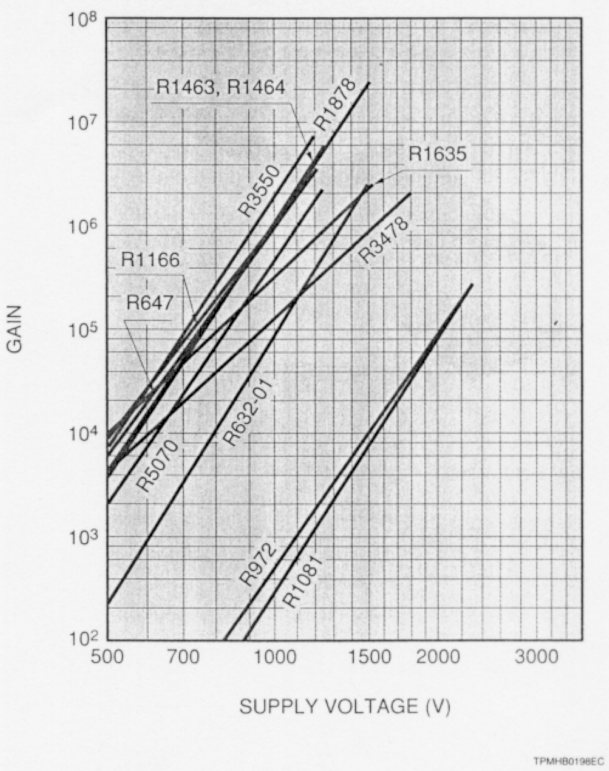
Gain

(For tubes not listed here, please consult our sales office)

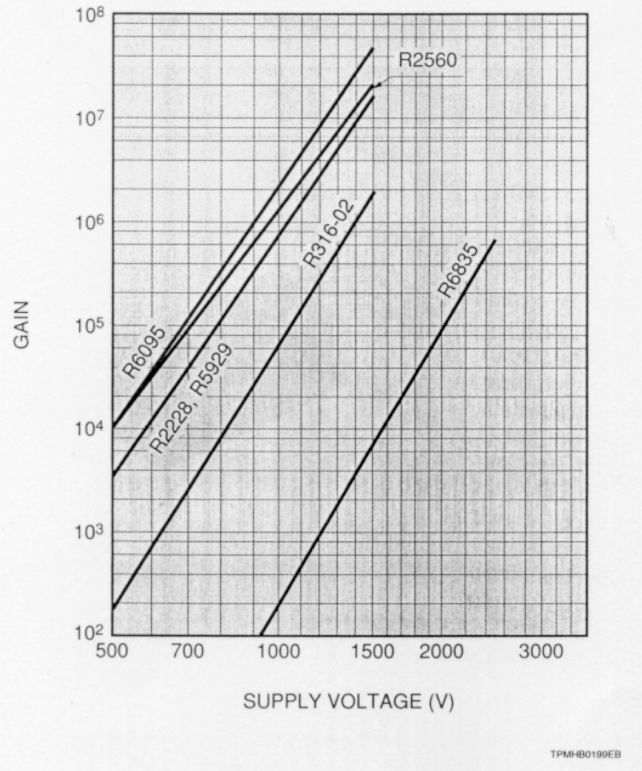
Side-On Types



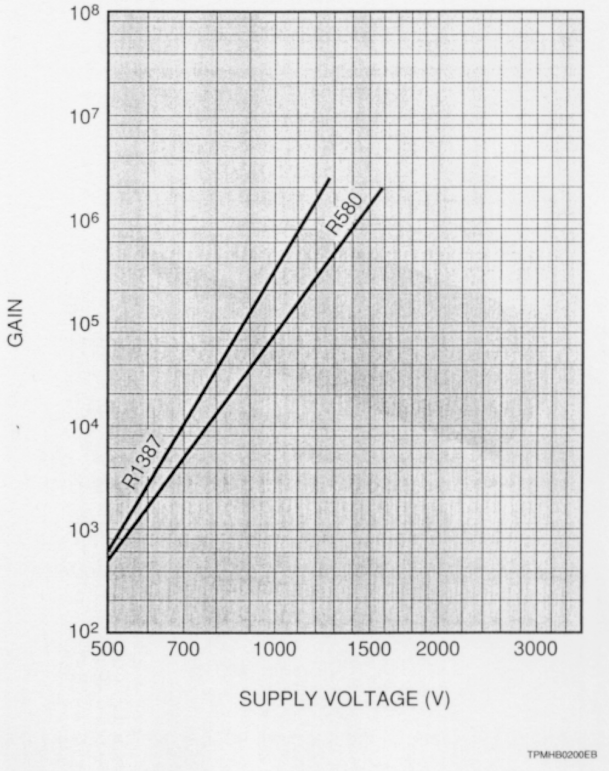
Head-On Types (10–25mm Dia.)



Head-On Types (28mm Dia.)



Head-On Types (38mm Dia.)



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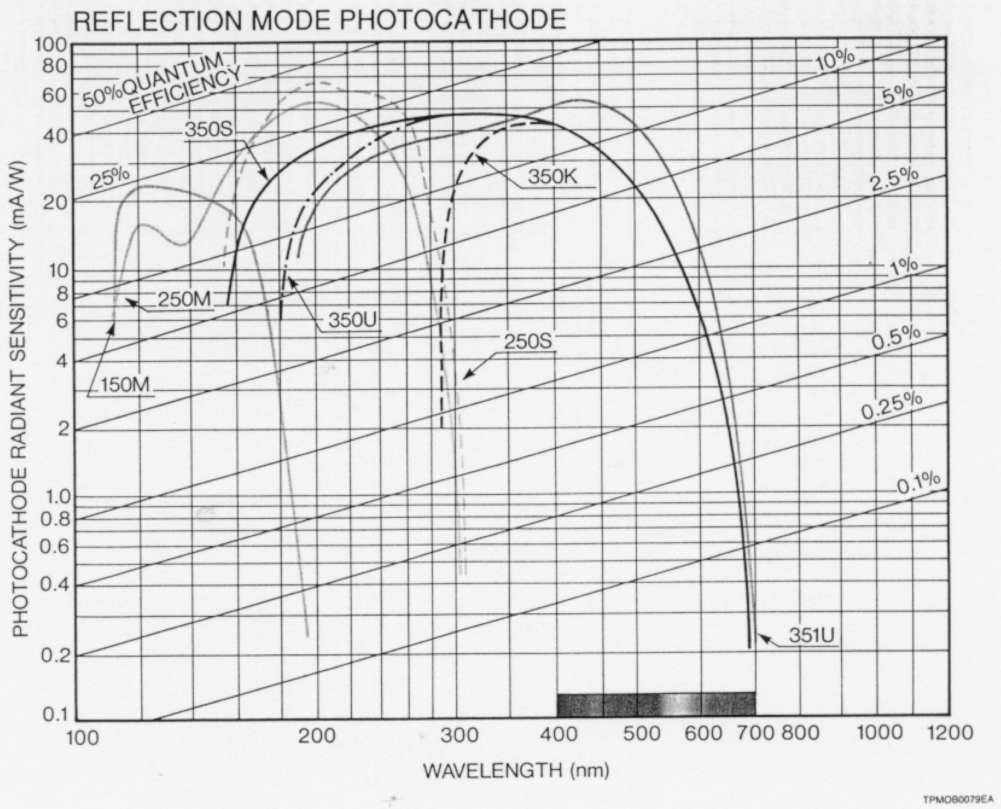
TYPICAL PHOTOCATHODE SPECTRAL RESPONSE

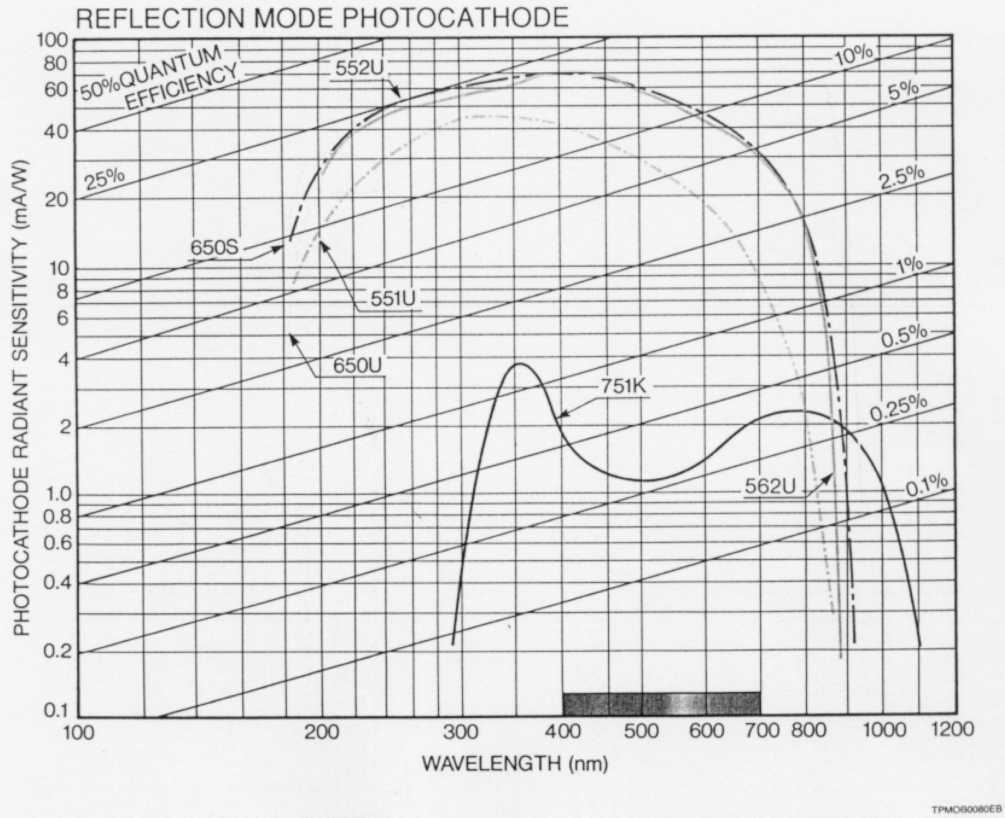
	Curve Codes	Photocathode Materials	Window Materials	Spectral Response			PMT Examples
				Range (nm)	Peak Wavelength		
					Radiant Sensitivity (nm)	Q.E. (nm)	
Semitransparent Photocathode							
○	100M	Cs-I	MgF_2	115 to 200	140	130	R972, R1081, R6835
○	200M	Cs-Te	MgF_2	115 to 320	210	200	R1080, R6836
/	201M	Cs-Te	MgF_2	115 to 320	220	220	R3809U-57
○	200S	Cs-Te	Synthetic silica	160 to 320	210	200	R759, R821, R1893, R6834
/	201S	Cs-Te	Synthetic silica	160 to 320	240	220	R2078
○	400K	Bialkali	Borosilicate	300 to 650	420	390	R329-02, R331-05, R464, R5496, R1635, R647, R1166, R2486-02, R2154-02
○	400S	Bialkali	Synthetic silica	160 to 650	420	390	R2496, R3809U-52, R5600U-06, R5916U-52
○	401K	High temp. bialkali	Borosilicate	300 to 650	375	360	R1281, R1288, R1705, R2557, R2801, R3550, R3991, R4177-01, R4607-01, R3998-02, R5800, R6427, etc.
/	500M	Multialkali	MgF_2	115 to 850	430	360	R3809U-58
○	500K(S-20)	Multialkali	Borosilicate	300 to 850	420	360	R550, R649, R1387, R1513, R1617, R1878, R1894, R1925
○	500S	Multialkali	Synthetic silica	160 to 850	420	280	R375, R3809U-50, R5916U-50
○	500U	Multialkali	UV	185 to 850	420	290	R374, R1463, R1464, R2368
/	502K (Super S20)	Multialkali	Borosilicate	300 to 900	420	400	R5070, R5929
/	501S	Multialkali	Synthetic silica	160 to 910	600	590	R3809U-51, R5916U-51
○	501K	Multialkali	Borosilicate	300 to 900	650	600	R669, R2066, R2228, R2257
○	700K(S-1)	Ag-O-Cs	Borosilicate	400 to 1200	800	780	R316-02, R632-01, R1767
/	700M	Ag-O-Cs	Borosilicate	400 to 1200	800	780	R3809U-59
Reflection mode Photocathode							
○	150M	Cs-I	MgF_2	115 to 195	120	120	R1259, R5757
○	250S	Cs-Te	Synthetic silica	160 to 320	200	190	R166, R6354
○	250M	Cs-Te	MgF_2	115 to 320	200	190	R1220, R2985
○	350K(S-4)	Sb-Cs	Borosilicate	300 to 650	400	350	R105, 1P21, 931A
○	350U(S-5)	Sb-Cs	UV	185 to 650	340	270	R212, R3810, R6350, 1P28
○	350S(S-19)	Sb-Cs	Synthetic silica	160 to 650	340	210	R106, R6351
/	453K	Bialkali	Borosilicate	300 to 650	400	360	931B
/	430U	Bialkali	UV	185 to 650	375	300	R2693
/	456U	Low noise Bialkali	UV	185 to 680	400	300	R1527, R4220
/	452U	Bialkali	UV	185 to 750	420	220	R3788, R6352
/	558K	Multialkali	Borosilicate	300 to 800	530	510	R1923
/	561U	Multialkali	UV	185 to 830	530	300	R6358
/	556U	Multialkali	UV	185 to 850	430	280	R4632
/	550U	Multialkali	UV	185 to 850	530	250	R3811, R6355
/	555U	Multialkali	UV	185 to 850	430	280	R3896
○	552U	Multialkali	UV	185 to 900	400	260	R2949
○	562U	Multialkali	UV	185 to 900	400	260	R928
/	554U	Multialkali	UV	185 to 900	450	370	R1477-06
○	650U	GaAs(Cs)	UV	185 to 930	300 to 800	300	R636-10
○	650S	GaAs (Cs)	Synthetic silica	160 to 930	300 to 800	280	R943-02
○	751K	Ag-O-Cs	Borosilicate	400 to 1200	800	720	R5108
/	850U	InGaAs(Cs)	UV	185 to 1010	400	330	R2658
/	851K	InGaAs(Cs)	Borosilicate	300 to 1040	400	350	R3310-02

○ : Spectral response curves are shown on page 84, 85

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OPAQUE PHOTOCATHODE SPECTRAL RESPONSE CHARACTERISTICS





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