

(19)
(12)

(KR)
(A)

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2003-0067551
2003 08 14

(21) 10-2003-0007509
(22) 2003 02 06

(30) JP-P-2002-00031208 2002 02 07 (JP)

(71) 가 가 가 , . 1753

(72) 5 7 1 가 가

(74)

:

(54)

(13)

(13)

(full color image)

7b

1

2

3

4

5 , ,

6a

,

6b ,

7a 7c

8 ,

9a 9d 가 가

,

10 ,

11a 11c ,

12 ,

13 ,

14a 14c ,

15a 15d ,

16a 16c ,

17 ,

18 , (retardation) ,

19 ,

20 .

< >

1 : 2 :

3 : 4 :

5 : 6 :

7 : 9 :

10 : 11 :

11a : 11b :

11c : 11d :

11f, 12b : 12 :

12a : 13 :

20a, 20b : (/4) 23a, 23b :

28 : 31a, 31b :

가
 가
 (back light source) 가
 가
 가
 가
 가
 'PDLC' 'TN' 'STN'
 nsulator - Metal) 가 MIM(Metal-I
 가
 가
 가
 2955277 1
 (1) (5) ITO(Indium-tin-oxide) (1) (6) 가
 (5) 6) (2)
 (4) (1) (3) (4) (2)
 (4) (4) (3) (1)
 가 가 가
 (5) 가 가
 가 (6) 가 가
 가
 2 2955277 (8) (5)
 (9) (8) (8) (df)

가 72° ,가 100% 가 . 50% (0) ECD 가 (0) ,

72° 2 3μm dr=1.5μm 가 , 3 (0)

가 72° 0° 가 가 (8)

33, 0.35) 1.4μm 2.0μm 1.7μm 2.0μm 0.3μm 4 가 1.7μm (0.37, 0.38) (0.30, 0.32) 가 ,가 ,가 , (0.30, 0.32) 1.5μm 1.5μm

가 5

ECB VA 가 , , (5) 2955277 가 ±0.3μm 가 , ,)

가 /

가 2 가 2 ; 2 가 2 가 2

가 가 , , 가 가

가 1 ; 2 1 가 가 2 ,

가 10° ,

가 2 ; 2 가 ,

가 가 가 , ,

가 /

2

(12a) (12) (11d) (12a)

(12) / (12c) (11d)

(11d) 가

(full color) 가 (dot)

(11a) (11b)

(11c) (11d) (11d) (12a) (11d)

가 가 가 .3 (1

1)가

(11) (11e, 6b) (10) (11e) (10)

) (7)

(11) (12) (11f/12b) (13) (11f/12b)

(11f/12b)

2) (0) 가 가 (11/12) (13) (11f/12b) (11/1

20b) (11/12) /4 (20a/20b), (23a/23b) (28) /4 (20a/

(28) (23a) (23a/23b) (23a) /4 (20a/20b)

/4 (20b) (23b)

(13) (11) (11d) (12a) 가 (11d) (12a)

23b) 45° (11d) (12a) (20b) (12) (23b) (23b) (23b)

(23b) 가 (23b) /4 (20b)

(10) (10) (dr)

/4 (20b) (13)

(23b) (23b)

가 (13) 가 가 가 (13) (10) (13) (10)

(13) (10) /4 (20b) (13) (10)

(23b)

/4 (20a) (23a)

/4 (20a)/ (23a) (23b) 가

(23a 23b) 90° (cross Nicol's position) /4 (20b)

/4 (20a) /4 (20a) /4 (20b) 90° 가

Nicol's position) (23a/23b) 가 (23b) 가 (cross

4 (20a/20b) (23a/23b) /

0 1

1.4 μm (dr) , 2 (dr) 1.7 μm , 3 2.0 μm (dr) .
 (11d) , (12a) 가 , 7a 7c .

0V , 3 (R/G/B) (13) 1.5V , (dr) 가 , .

2.0 μm , 0V 1.5V (8) . 가 0 , 1.4, 1.7 (dr)
 1.5V , 1.5V , (13) , 가 1.5V , 가
 3 , 가

3 (13)

가 , 가 (13)

(11 12) , 가 (13)

(11f/12b) , (13) (11d) (12a) , 가 가 (13) 가 (13)
 / , (13) , 가

(11f/12b) ,

6a , 가 가 , (13)

가 , 10° , 0 , 72°

(13) 가 가 3 (13)
 (df) 3.0 μm , 3.5 μm , 4.0 μm 4.5 μm ,
 9a 9d 3.0, 3.5, 4.0 4.5 μm
 0V , (df) 가
 1.5V , 가 . 0 1.5V ()
 10 3.3 μm 3.5 μm 'x' 0V 4.5 μm 1.5V

8 10 , dr=1.7 \pm 0.3 μm (13) 1.5V 가 (d)
 (df) 4.0 μm 9a 9d , / (10/7) (10) (7) 가

r/df) 가 1.5V (13)

/ (13) ,

(df) , (13) 가
 11a 11c (10) (7) (13) 가 0
 , 11a (13) (10) (7) 가 1.5V 가
 , 11b (13) (10) (7) 10°
 가 5V 가 (13) (7) (10)

2

2 , 가
 가 12
 1 2 2 /4 (20a/20b)
 가 가 가 가
 12 (11d) (12a) 가
 가 (dr)
 (13) (10) (23b) (23b) (10) 가 (23b)
 (23b) 90°
 가 (11d) (12a) 가 (13)
 (13) (13) (23b) (10) (23b) (10)

/

(dr) / (13) (13)
 가
 1 가 (10) (13)
 (7) 가 (10) / (df)
 1 2 (13) 0° (10)
 550nm (13) 가 (7)

$dn \cdot dr = /4 = 137.5nm$

$dn \cdot df = /2 = 275nm$

(13)
 (10)

(7) $dr+ df+ \dots 1$, (dr+ df+)

$dn \cdot dr+ = /4 + = 137.5nm + 8.7nm = 146.2nm$

$dn \cdot df+ = /2 + = 270nm + 74nm = 344nm$

138nm 172nm 0 10 가 , (13) 275nm 344nm (13)

3

1 2 가 , VA . 3 (31a, 31b) 가 1

(10) (dr) 1.4μm, 1.7μm 2.0μm (13) 14a, 14b 14c R/G/B 7a, 7b 7c R/G/B

(dr) 가 1.7μm 3.5V , 가 14a, 14b 14c 3.5V 5V , 3.5V 8

(11d) (12a) 가 , (13) 가 0 3.5V , 가 (13)

(df) 3.0μm, 4.0μm 4.5μm , (13) 가 가 (7) 5d 9a 9d 15a 15d 15a 15d (df) 4.0μm , 15a 15d 3.5V 5V 10 가 가 가 가

16a 16c (13) (13) 가 , 16a (13) 가 3.5V 가 , (13) 10° (16b), 가 5V 가 , 16c (13)

(13) 가 (31a 31b) 가 (13) 10° 가

가 (13) 가 0V 가 0V 3.5V (13) 가

(31a/31b) 550nm (13) 가 3 (10) (7)

$$dn \cdot dr = /4 = 137.5nm$$

$$dn \cdot df = /2 = 270nm$$

, dn , dr (dn) 0.086 , df

3 가 (13) dr+ 가 df+ 가 (13)

$$dn \cdot dr+ = /4 + = 137.5nm + 8.7nm = 146.2nm$$

$$dn \cdot df+ = /2 + = 270nm + 74nm = 344nm$$

가 (13) 275nm 344nm (13) 138nm 172nm

(dr df), 가

4

4 가 1 2 , 6a

4 12b) (13) 1.0 45° 가 0.75 72° (11f 0) 가 0.5가

18 , (1) 3) 0 가 1 2 가 18 가 (13) (13)

19 (X1, Y1) (X2, Y2) , ±0.3 μm Y1) 가 (X2, Y2) , (X1,) (X1-X2) 2 +(Y1-Y2) 2 } 1/2 A , 가

. A B 가 , 가 , B , 가 0
 , 1, 2 3
 가
 17 , , , , ,
 .
 0 72° A
 10° , 가 1 . 가
 , 10 45° , , 가 2
 , 45° , 가 3
 .
 3 . 1, 2 3
 1 . 4 2 .
 , 4 . 가 (13) 가 , , 가
 가 , . 가 (13) , , 가
 . 가, (11/12) 가 1 10° 45° . 20
 18 . , 4 . , (13)
 , .
 , . 가
 . 가,
 .
 가 , , ,
 , . 가 , ,

(57)

1.
 가 2 (11/12) , 가
 (12c) 가 2 (11/12); (11d/12a) 2
 2 가 (11/12) ,
 가 (13) ,
 가 (11d/12a) 가 , ,
 (13) , (13)
 가 .

- 1 2. , 가² (12b/11f) 가 , .
- 2 3. , , , 가 가 .
- 2 4. , , , 가 가 .
- 2 5. , (12b/11f) 10° .
- 5 6. , (13) 138nm 172nm .
- 2 7. , (12b/11f) 10° 45° .
- 7 8. , (13) 123nm 157nm .
- 1 9. , 가² (31a/31b) 가 , .
- 9 10. , , , 가 가 .
- 9 11. , (13) 138nm 172nm .
12. (11a/11b), (11a/11b) (11c), (11c)
 (10), (7) 1 (11);
 (10/7) (12a) 2 (12);
 1 (11) 2 (12) (10/7)
 (12a) 가 가 ,
 (13) ,
 (10) (12a) (7) (12a) (13)
 , 10° .

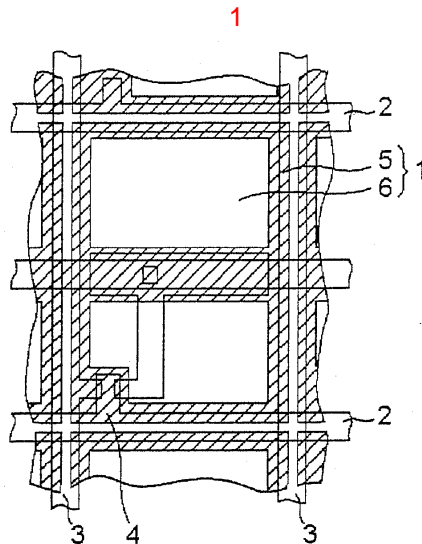
12 **13.** , (13) ,
 ,
 0.5V .

12 **14.** , (13) , 가 가
 ,
 0.5V .

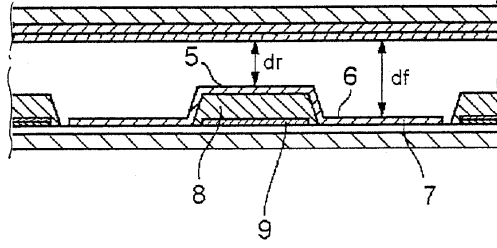
15.
 (11d/12a) ,
 2 (11/12);
 2 (11/12) 가 , (13) 가 , 가
 (df) , , (13)

16. , 2 (11/12) (13) (12b/11f)
) ,
 (13) , .

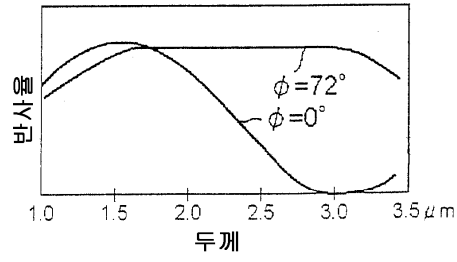
17. , 2 (11/12) (13) (31a/31b)
) ,
 (13) , .



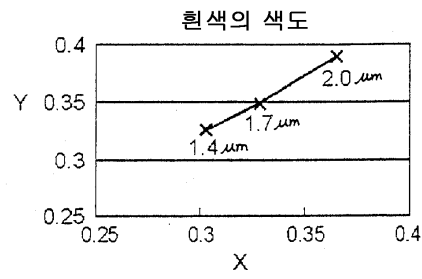
2



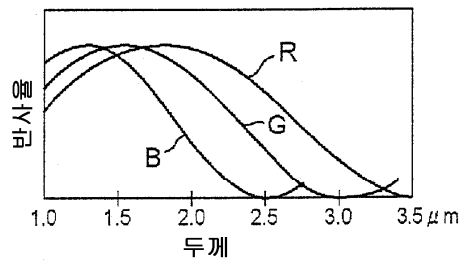
3



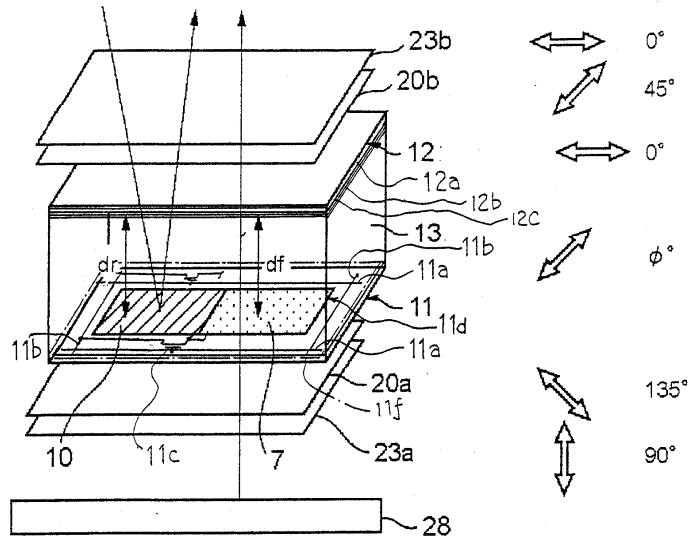
4



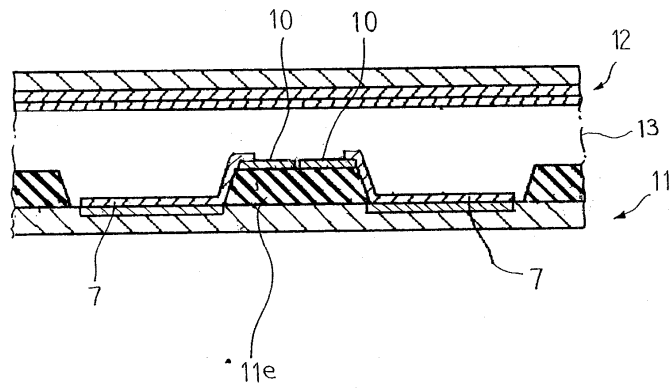
5



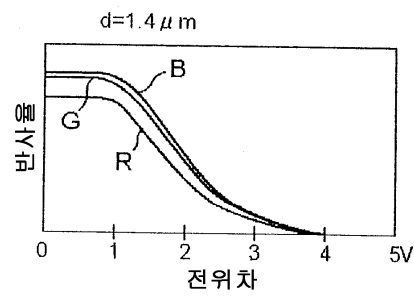
6a



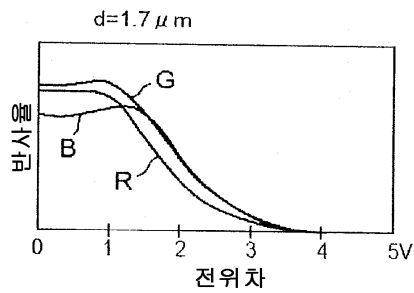
6b



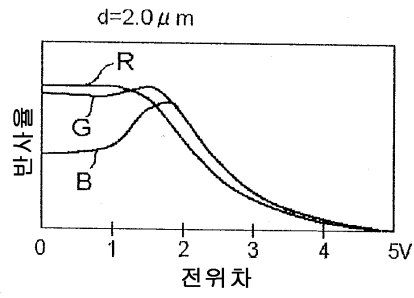
7a



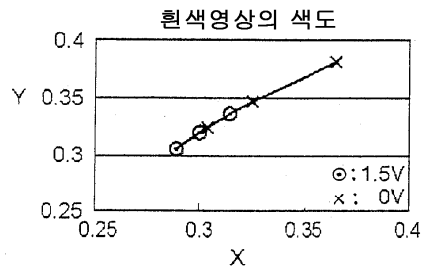
7b



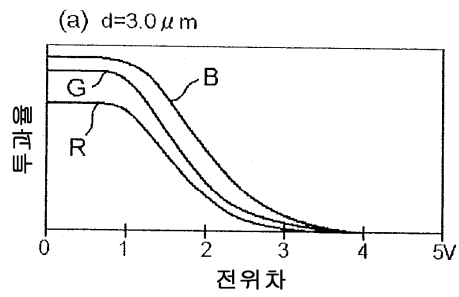
7c



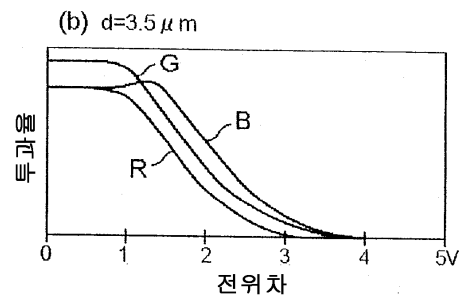
8



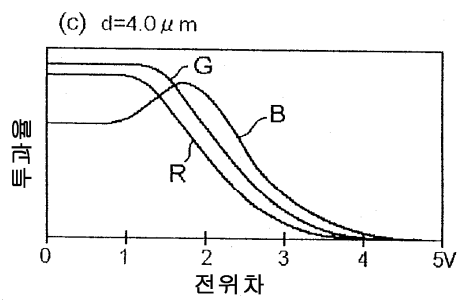
9a



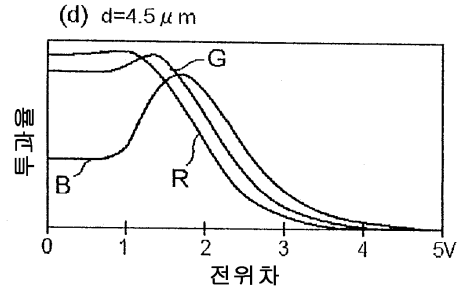
9b



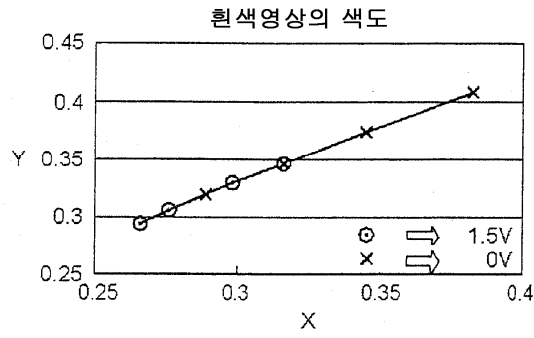
9c



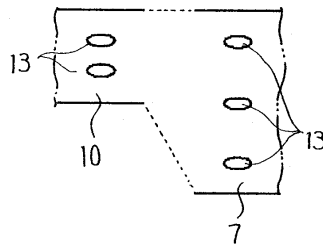
9d



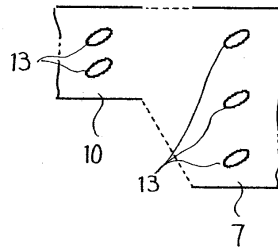
10



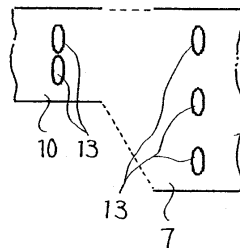
11a



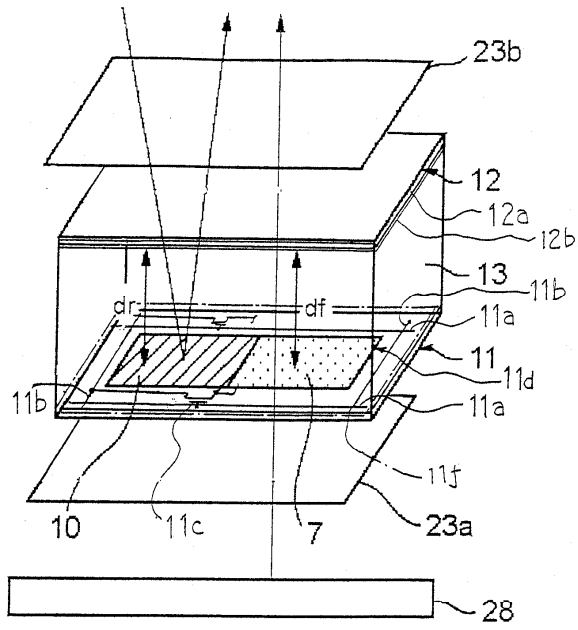
11b



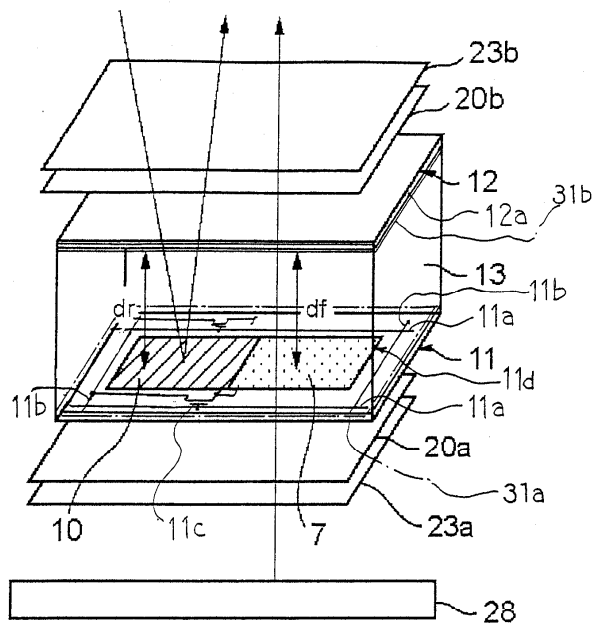
11c



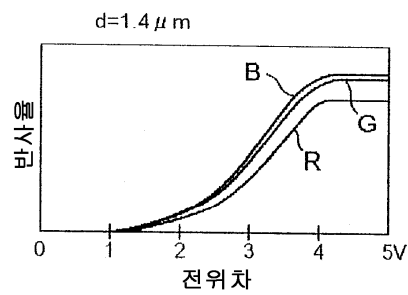
12



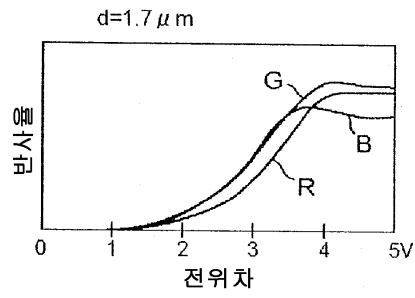
13



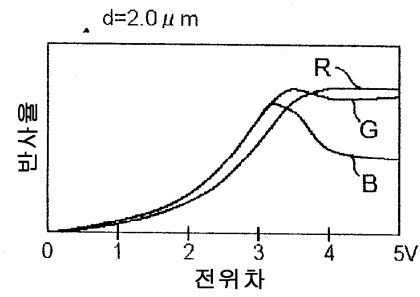
14a



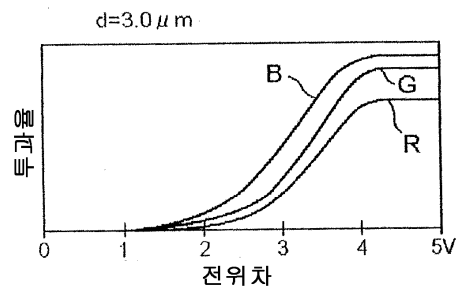
14b



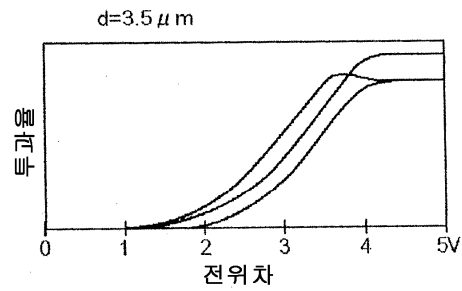
14c



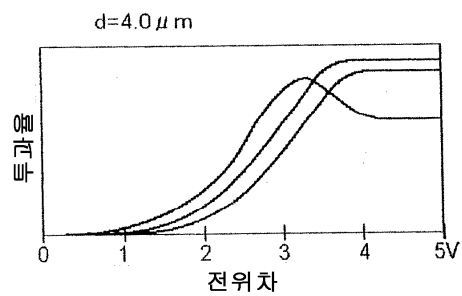
15a



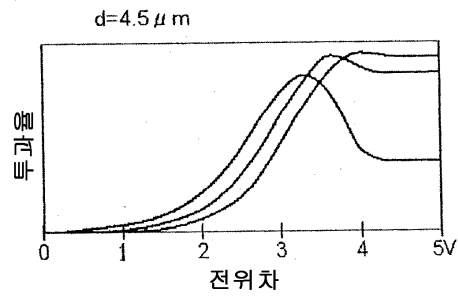
15b



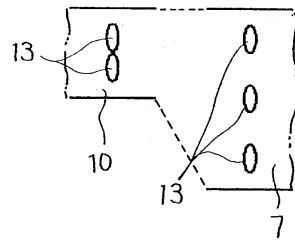
15c



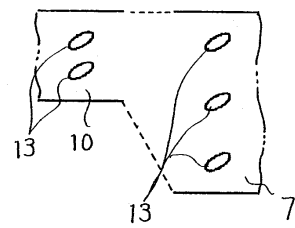
15d



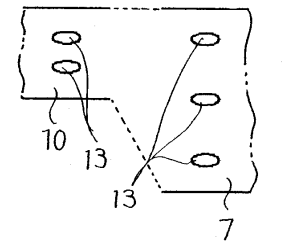
16a



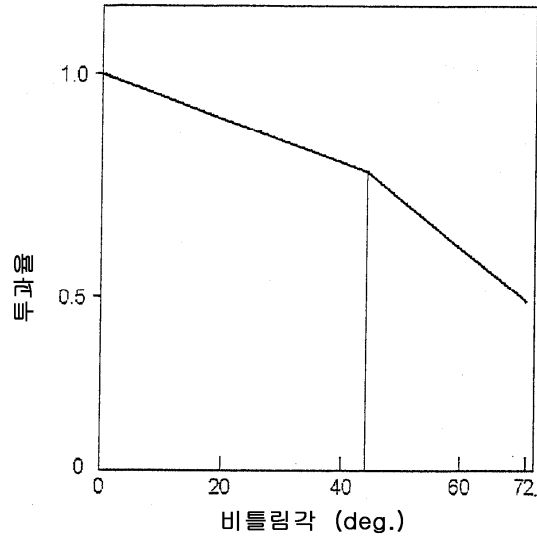
16b



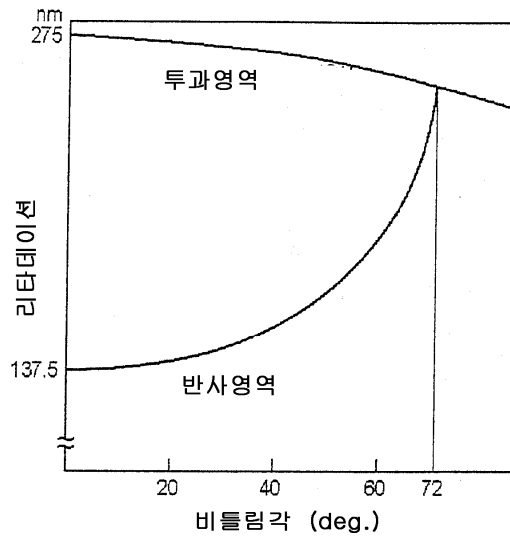
16c



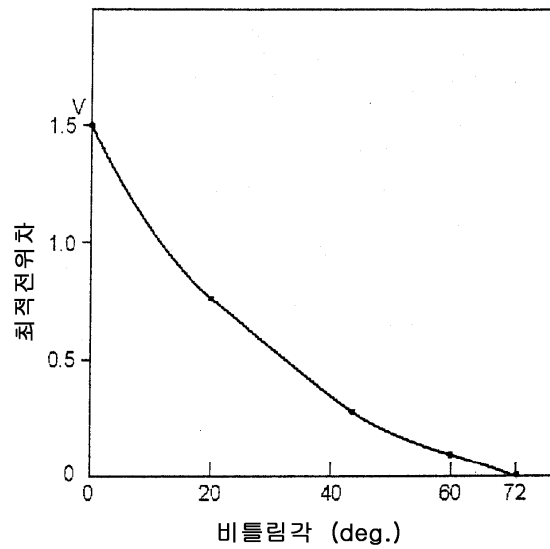
17



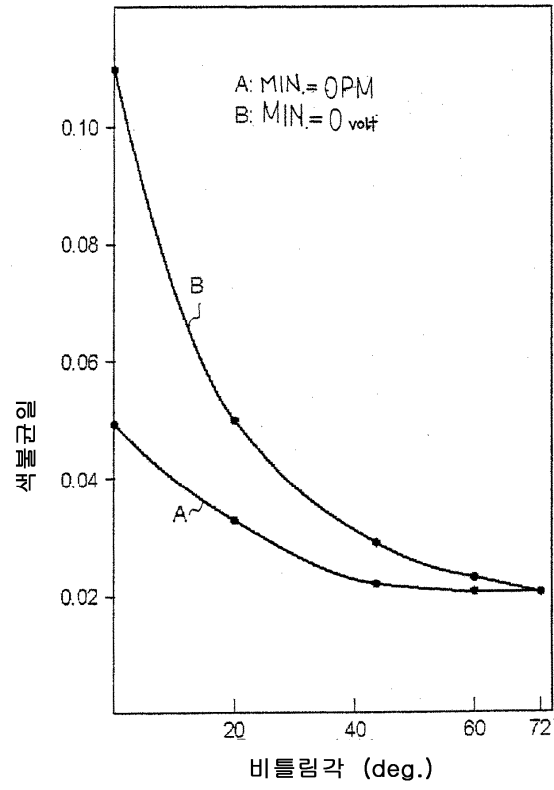
18



19



20



专利名称(译)	液晶显示装置对颜色不均匀有效		
公开(公告)号	KR1020030067551A	公开(公告)日	2003-08-14
申请号	KR1020030007509	申请日	2003-02-06
[标]申请(专利权)人(译)	NEC液晶技术株式会社		
申请(专利权)人(译)	日元号技术可否让这个夏		
当前申请(专利权)人(译)	日元号技术可否让这个夏		
[标]发明人	SAKAMOTO MICHIAKI		
发明人	SAKAMOTO, MICHIAKI		
IPC分类号	G09G3/36 G02F1/1335 G02F1/1337 G02B5/30		
CPC分类号	G02F2202/40 G09G3/3607 G02F1/133555		
代理人(译)	JO , EUI JE		
优先权	2002031208 2002-02-07 JP		
其他公开文献	KR100629984B1		
外部链接	Espacenet		

摘要(译)

反射型或半透射型液晶显示装置的液晶层 (13) 的厚度和驱动电压在敌人的范围内相似, 并且关于锈和蓝光成分的反射率的价值低于驱动电压在驱动电压范围内产生全色图像, 其中反射或半透半反型液晶显示装置的反射率相似, 并且确定最大值使得液晶层 (13) 的反射率大约为蓝光成分, 最大值是不规则颜色和色调散被抑制。液晶显示器, 驱动电压, 反射率, 透射率。

