

(19)
(12)

(KR)
(A)

(51) 。 Int. Cl. ⁷ G02F 1/1335		(11) (43)	2003-0080966 2003 10 17		
(21)	10-2002-0046726				
(22)	2002 08 08				
(30)	10/121,078	2002 04 11	(US)		
(71)			-	1 NO. 3	
(72)	-	-	2492		
(74)					
:					
(54)					

가

1b

1a
1b
2a

1
1
2

[illegible]

0.075, (Δn) , 3, 7, $(\Delta \epsilon)$, 7, 16, 4, 5V, 2.5, 3.3V, 0.05, 가

(dark state), (normally bright mode), (quarter-wave compensators), 550nm, 가, (400, 700nm), (full spectrum) (contrast)

가, (retardation)

가, 0°가, 가, 가

가, 가, 가, (a), ITO(indium tin oxide), 가, (b), (c), 가

), 5, 16, $(\Delta \epsilon)$, 0.07, 0.15, (Δn) 95%

LCD, (TFT-LCD), LCD, TFT-LCD, LCD, RTN, MTN(mixed twisted nematic), R-ECB(Ref 100%, lective-electrode controlled birefringence)

2

()

1a 1b
 (retardation film:103) (110) (101), (111), (105), (101,111)
 (110)

1 (103) (101) (107) (101) (103)
 (115) (111) (119) (110) (115) (117)
 (111)

가 1a (110)
 (average pointing director)
 가 0° (110)

가 (103) (110) (105) 가 (103) (105)
 (117) 가 (110) (120) (103) (105)
 가 (pre-tilt) 1b

가 1 1a 1b 2b (111)
 2a 2 3 (215) (over coating layer: 225)
) (221), (223), (223)
 (225) ITO(indium tin oxide) (227)

3 (Al), (Ag), (semi-transparent semi-reflective) 3a 3c
 가

3b 3 50 500
 500 2000

3c (stripe), 가 (blank)
 4a 4c 가 4a T (R T)가 5% 30%

(color filter) TFT(thin film transist
 or) TFD(thin film diode) (active matrix device)
 (passive matrix device) ITO IZO(indium zinc ox
 ide) (acrylic resin)
 (macromolecular polymer)
 al) 20nm 180nm A C (uni-axial), (bi-axi
 A O

가 (103) (105)

(homogeneous)
(phase compensator) 1a 1b (103) , LCD
(wavelength dispersion) , 가 가 ,
가 , 가 가 ,
가 ,
5a 2V
5a (Vth) (($\Delta \epsilon$), 0.75, 0.7 0.64V LC1, LC2 LC3 0.089, 0.093 0.10 (Δn), 8, 13 (Vd) 15 2.1, 1.8 1.6V (Vth) (Vd)
5b (luminance) 5b (Vth) , 가 , LC2 0.45 ,
) 1V 0.7V 1.8V (Vd) 1/6 1/6 1.8 2 5 2
5c TFT-LCD 5c , 가 2.2' (Vd) 1/5 2.1V ,
100% , 1/5 2.1 2 5 2
가 , , 가
(solution) (2) , d (cell gap) , R 2 , Δn

(1) 가 ,

$$0.85 \leq (\Delta n \cdot d)/2R \leq 1.15 \quad (1)$$

$$\theta_1 \quad \theta_2 \quad (2) \quad (3)$$

$$\theta_1 - 30^\circ \leq 3\theta_2 \leq \theta_1 + 30^\circ \quad (2)$$

$$35^\circ \leq \theta_2 \leq 55^\circ \quad 35^\circ \leq \theta_2 - 90^\circ \leq 55^\circ \quad (3)$$

6a (1) , 가 $\Delta n \cdot d$ (R) 6b (2) (3) 5
($\Delta \epsilon$) 가 θ_2 , θ_1 0.07 0.15 가
가

$$\frac{d}{\lambda} \leq \frac{2}{\lambda} \quad (4)$$

$$0.2 \leq (\Delta n \cdot d)/2R \leq 0.33 \quad (4)$$

$$\theta_1 \leq \theta_2 \quad (5) \quad (6)$$

$$2\theta_1 + 30^\circ \leq \theta_2 \leq 2\theta_1 + 60^\circ \quad (5)$$

$$5^\circ \leq \theta_1 \leq 25^\circ \quad (6)$$

$$\frac{d}{\lambda} \leq \frac{2}{\lambda} \quad (4) \quad (R) \quad \theta_2 \leq \theta_1 \quad (5) \quad (6) \quad (\Delta n) \leq 2.5$$

$$\frac{d}{\lambda} \leq \frac{2}{\lambda} \quad (4) \quad (R) \quad \theta_2 \leq \theta_1 \quad (5) \quad (6) \quad (\Delta n) \leq 2.5$$

$$\frac{d}{\lambda} \leq \frac{2}{\lambda} \quad (4) \quad (R) \quad \theta_2 \leq \theta_1 \quad (5) \quad (6) \quad (\Delta n) \leq 2.5$$

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$$\frac{d}{\lambda} \leq \frac{2}{\lambda} \quad (4) \quad (R) \quad \theta_2 \leq \theta_1 \quad (5) \quad (6) \quad (\Delta n) \leq 2.5$$

$$\frac{d}{\lambda} \leq \frac{2}{\lambda} \quad (4) \quad (R) \quad \theta_2 \leq \theta_1 \quad (5) \quad (6) \quad (\Delta n) \leq 2.5$$

TN . 10 RTN , TN ,
0.07 0.15 Δn 5 16 Δε TN ,
1.5 2.5V .
T-LCD, LCD TFT-LCD, LCD, TF
N , , 0.07 0.15 Δn 5 16 Δε T
 , , , ,

(57)

1.

;

;

;

;

, 가 0 ° 가

가 , 가 ,

가

2.

1 ,

3.

1 , (active matrix device)

4.

3 ,

5.

1 , (passive matrix device)

)

6. 1 , ITO(indium tin oxide) IZO(indium zinc oxide) .
7. 1 , .
8. 1 , (macromolecular polymers) .
9. 1 , 20nm 180nm .
10. 1 , , A , O C .
11. 1 , , , .
12. 1 , , , .
13. 1 , .
14. 1 , .
15. 1 , .
16. 15 , , , .
17. 1 , 5% 30% , .
- 18.

1, 50 500

19.

1, 500 2000 (silver)

20.

1,

21.

1,

22.

1, ; ; ; ;

ITO

23.

22,

24.

1, 가 가,

25.

24, $0.85 \leq (\Delta n \cdot d)/2R \leq 1.15$
 $\theta_1 \quad \theta_2$:

$$\theta_1 - 30^\circ \leq \theta_2 \leq \theta_1 + 30^\circ$$

$$35^\circ \leq \theta_2 \leq 55^\circ \quad 35^\circ \leq \theta_2 - 90^\circ \leq 55^\circ$$

, d, R, θ_1 , Δn , θ_2

26.

25, 0.07 0.15 (Δn), 5 ($\Delta \epsilon$)

27.

24, $0.2 \leq (\Delta n \cdot d)/2R \leq 0.33$
 $\theta_1 \quad \theta_2$:

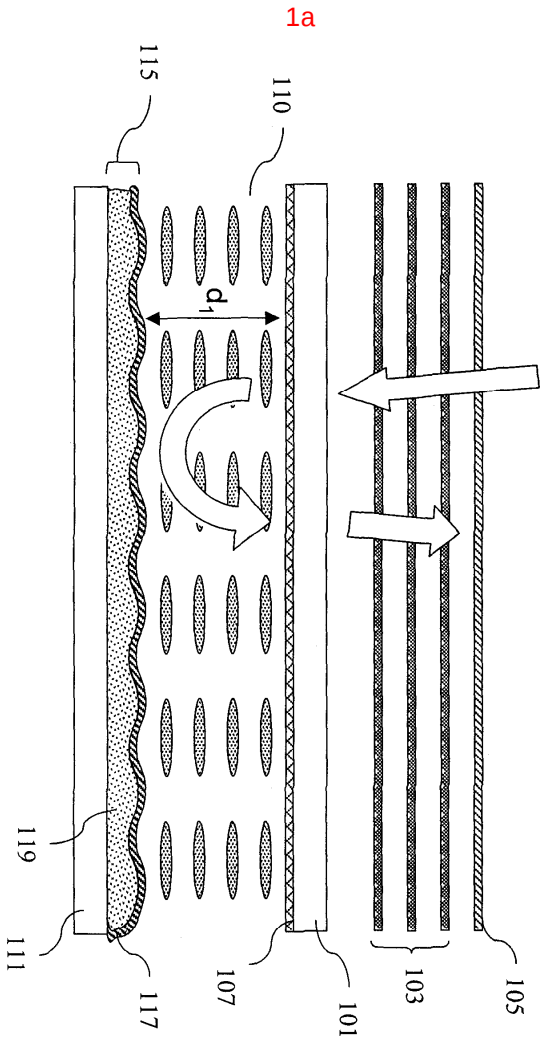
$2\theta_1 + 30^\circ \leq \theta_2 \leq 2\theta_1 + 60^\circ$

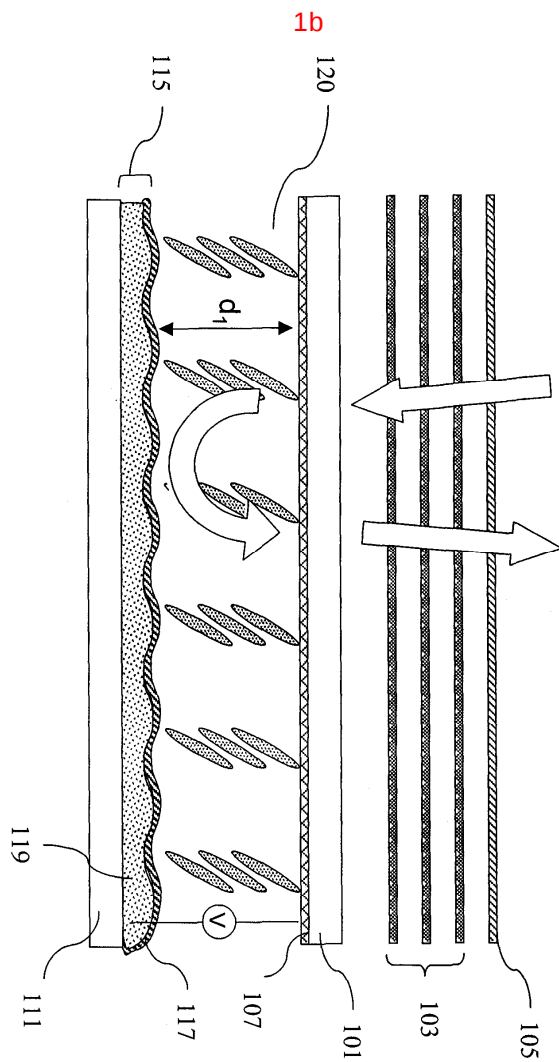
$5^\circ \leq \theta_1 \leq 25^\circ$

, d , R , θ_1 , Δn , θ_2

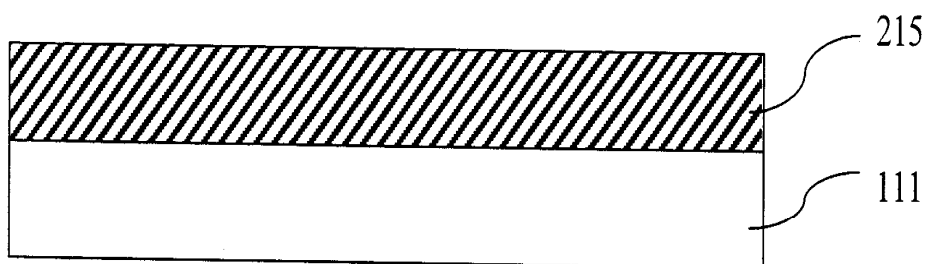
28.

27 , 0.045 0.095 (Δn) , 2.5 (Δε)

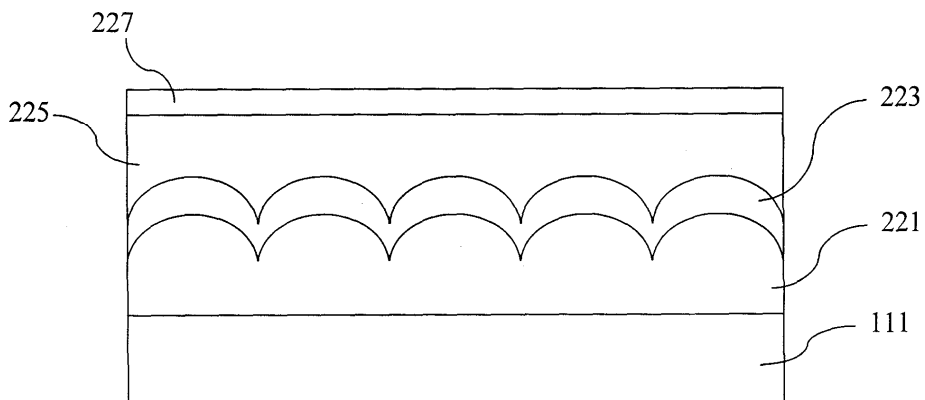




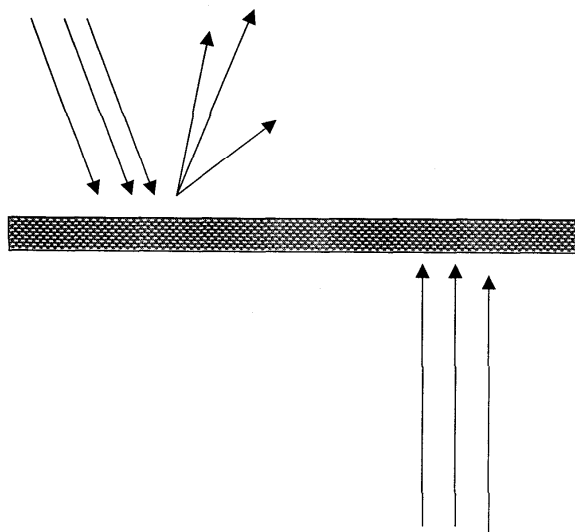
2a



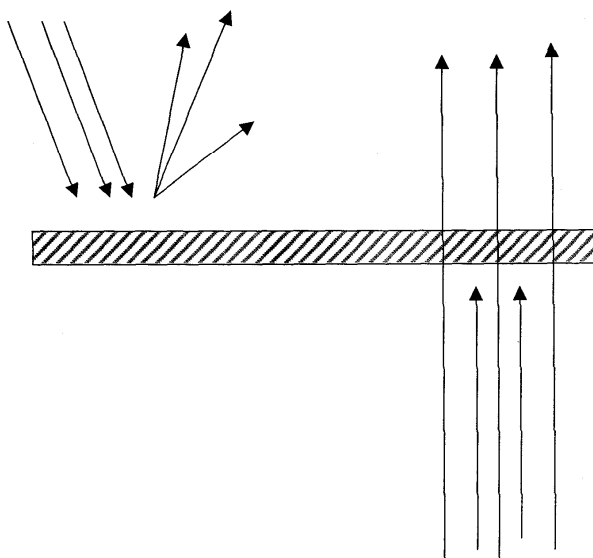
2b



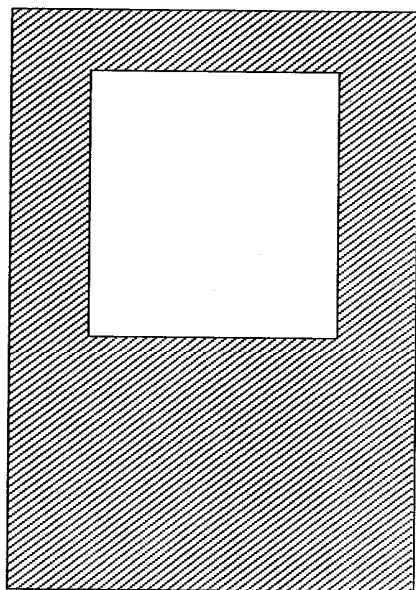
3a



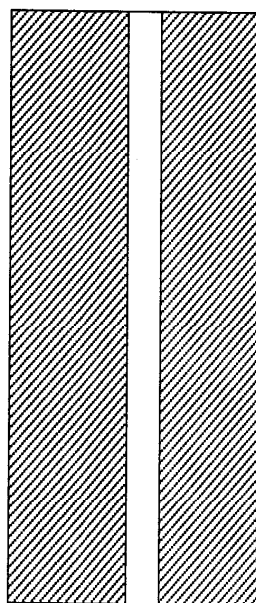
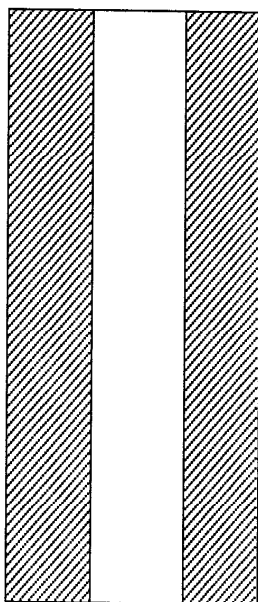
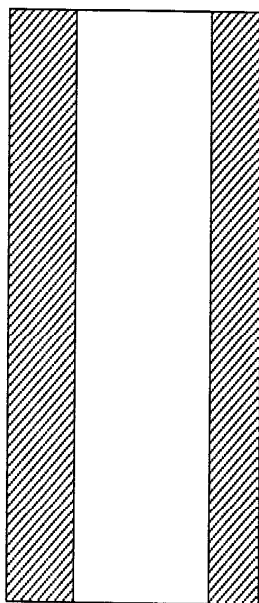
3b



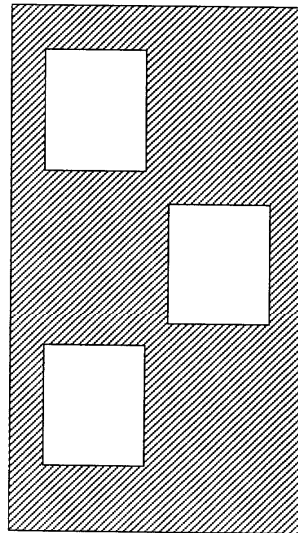
3c



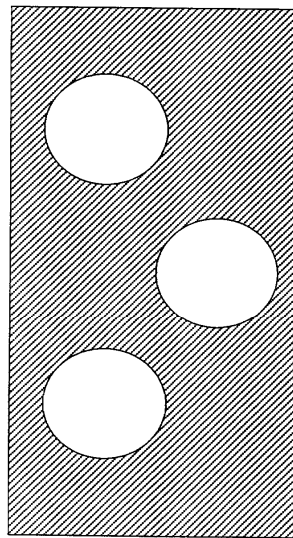
4a



4b



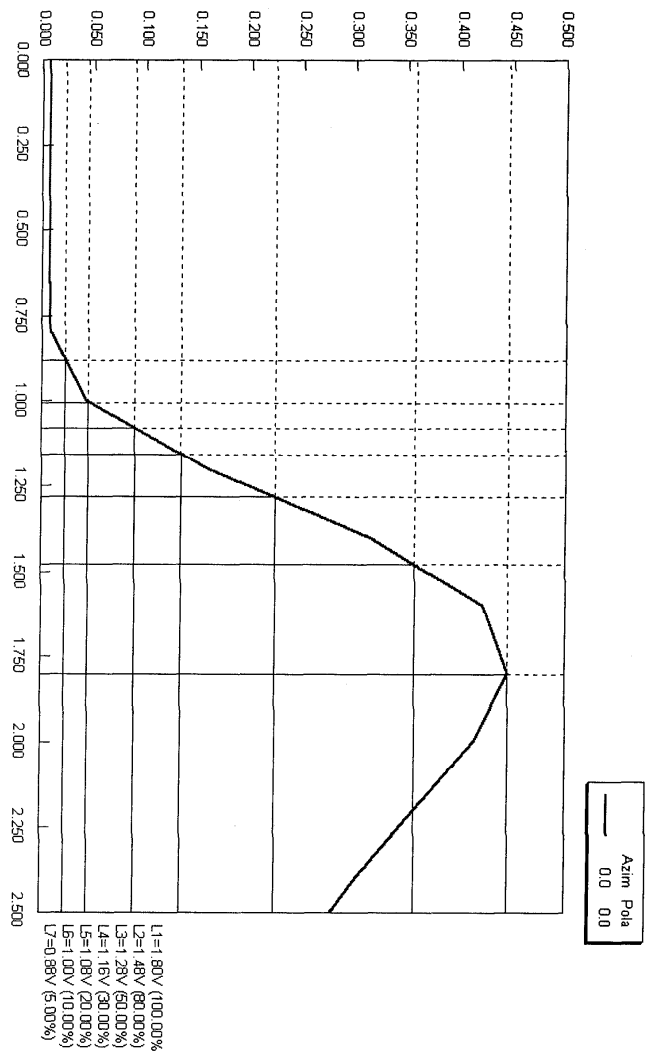
4c

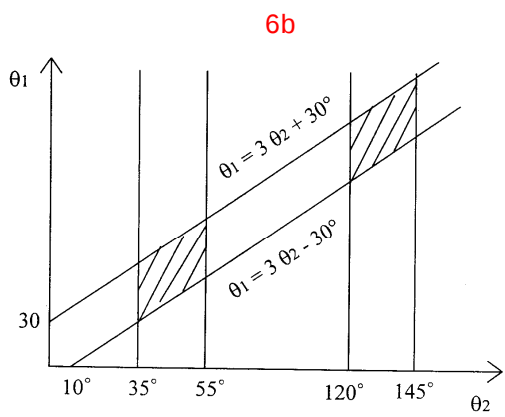
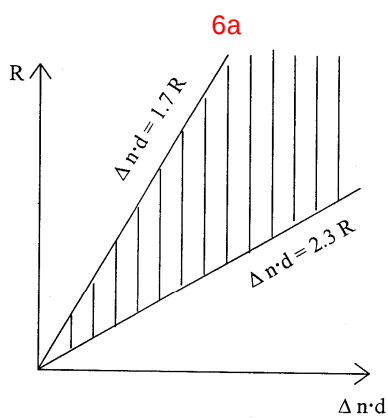
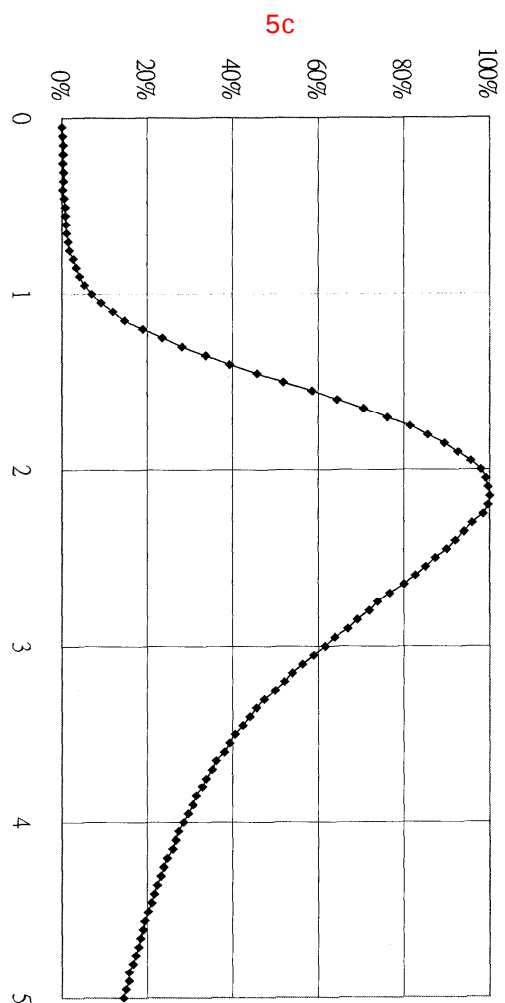


5a

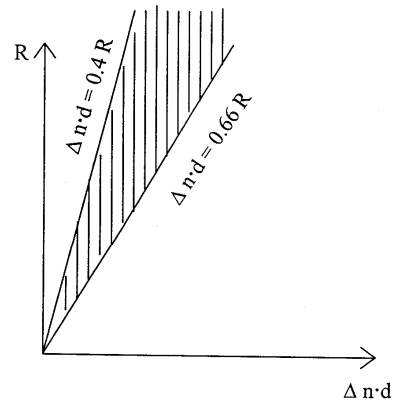
광학적으로 자기 보상된 액정 구조	Δn	$\Delta \varepsilon$	V_{th}	V_d (V)
LC1	0.089	+8	0.75	2.1
LC2	0.093	+13	0.7	+1.8
LC3	0.10	+15	0.64	+1.6

5b

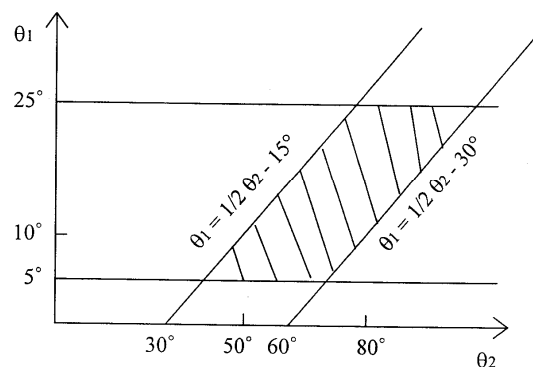


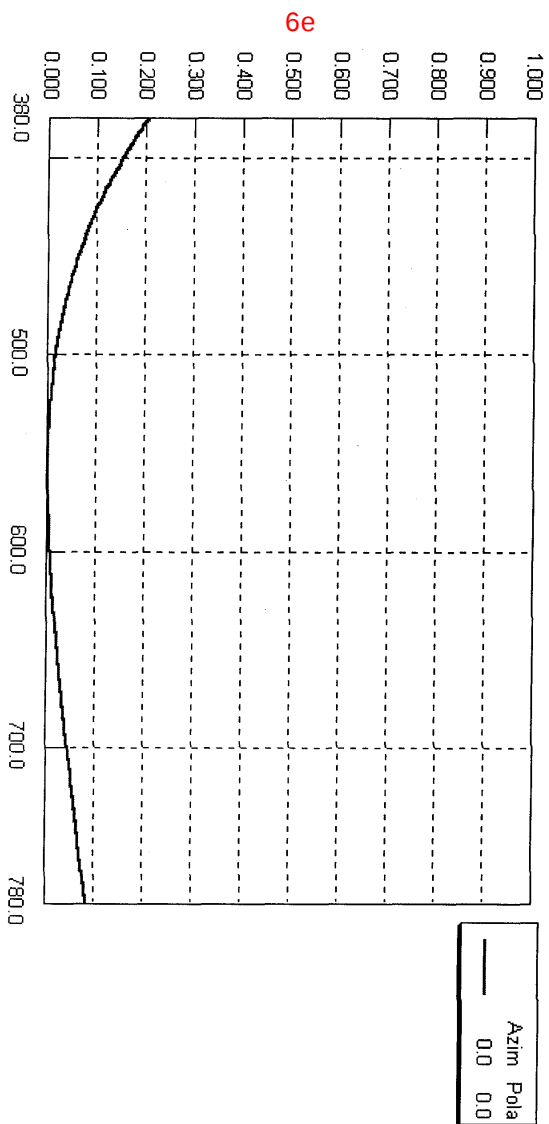


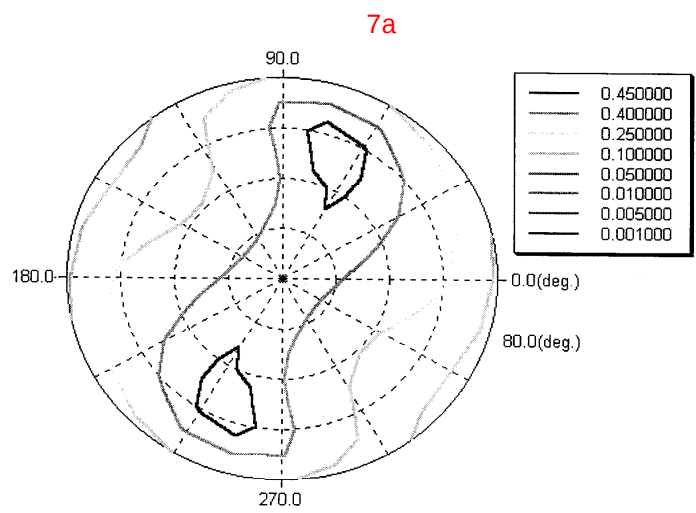
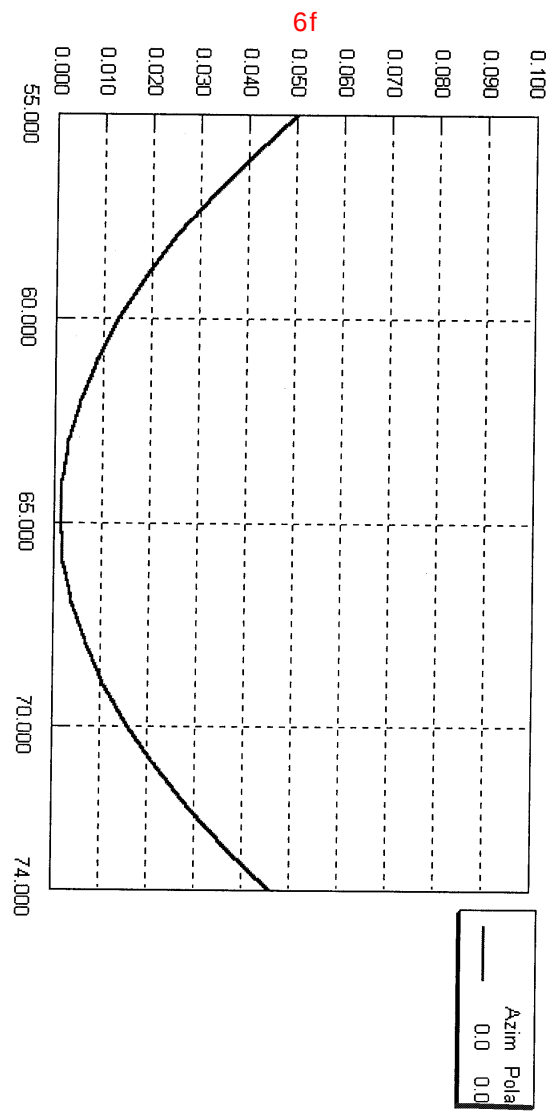
6c



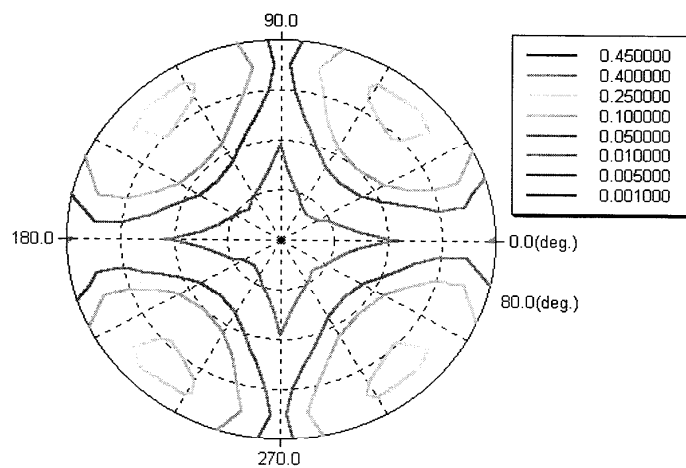
6d



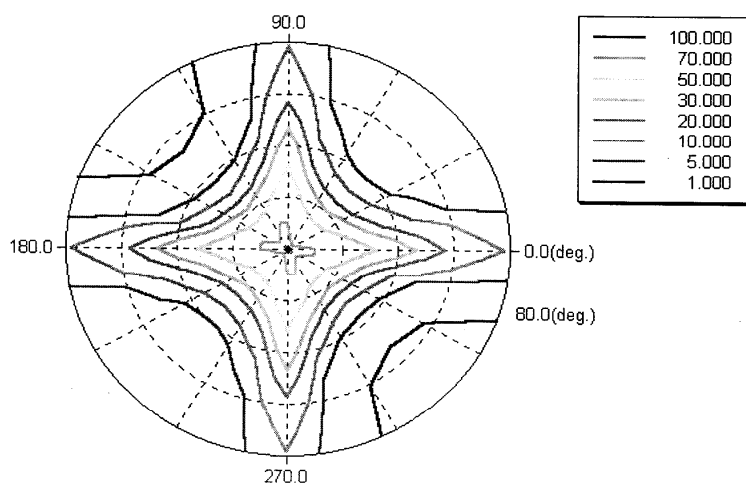




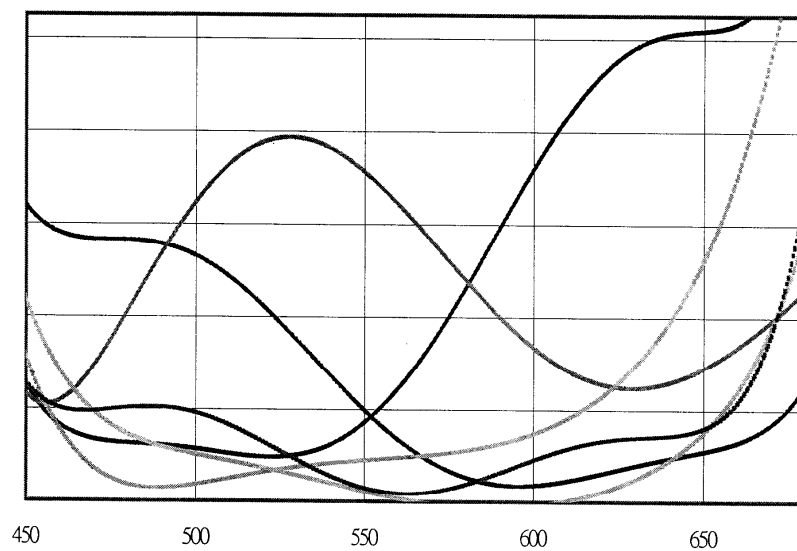
7b



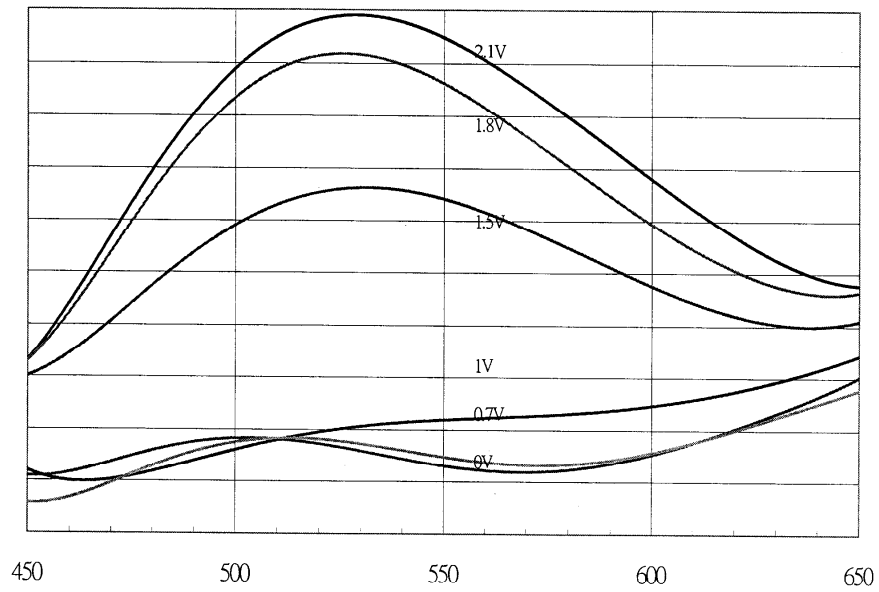
7c



8



9



10

LC 종류	Δn	$\Delta \varepsilon$	V_{th}	신뢰성
RTN-LC	0.05~0.075	+3~+7	4~5V	불량
TN-LC	0.08~0.15	+7~+16	2.5~5V	우수
본발명의 LC	0.07~0.15	+5~+16	1.5~2.5V	우수

专利名称(译)	光学自补偿反射型液晶显示器件结构		
公开(公告)号	KR1020030080966A	公开(公告)日	2003-10-17
申请号	KR1020020046726	申请日	2002-08-08
[标]申请(专利权)人(译)	元太科技工业股份有限公司		
申请(专利权)人(译)	这墨水Holdings的鼻子的激光炮		
当前申请(专利权)人(译)	这墨水Holdings的鼻子的激光炮		
[标]发明人	LIU HONG DA 류홍다		
发明人	류홍 다		
IPC分类号	G02F1/1335		
CPC分类号	G02F1/133553 G02F1/133528 G02F2201/121 G02F2201/123		
优先权	10/121078 2002-04-11 US		
外部链接	Espacenet		

摘要(译)

它具有宽视角和对比度。另外，通过使用 Δn 为0.07至0.15且 $\Delta\epsilon$ 为5至16的普通TN液晶，可获得优异的可靠性。如上所述，已经针对某种程度的特征描述了本发明，但是在不脱离本发明的精神和范围的范围内，可以通过在优选实施例的方法和示例以及组合内的各种修改来产生本公开。部分更改可以在以后复制。

