

(19)(12)(KR)(A)

(51) 。 Int. Cl. ⁷ H05B 33/14			(11) (43)	10-2004-0017786 2004 02 27
(21)	10-2003-0057560			
(22)	2003 08 20			
(30)	10/224,239	2002 08 20		(US)
(71)			343	
(72)	14468	95		
	14624		19	
	14620		949	
(74)				
(54)				

가 OLED 가 ,
가 가 , OLED

3 .

4 .

5 가 OLED

6 가

7 가

8 , 1 가 1 2 3 가 2 ,
가

9 , OLED ,

10 , OLED

(OLED) ,

가

OLED

3

가

가 가 OLED

OLED ,

가

5.5 , 7

가 , 가

가 가

가 가

()

가 /

LED

가 (: (TF

T))

6,366,025 ()

1 (12)

OLED (10) (12)

(14) (14)

R, G B

2 ; ; (fill factor);

가 (24). 가 (26).

가 (28).

$$Y_r = \frac{y_r(x_w(-y_b + y_g) + x_g(y_b - y_w) + x_b(-y_g + y_w))Y_w}{(x_g y_b - x_r y_b - x_b y_g + x_r y_g + x_b y_r - x_g y_r)y_w}$$

$$Y_g = \frac{y_g(x_w(y_b - y_r) + x_b(y_r - y_w) + x_r(-y_b + y_w))Y_w}{(x_g y_b - x_r y_b - x_b y_g + x_r y_g + x_b y_r - x_g y_r)y_w}$$

$$Y_b = \frac{y_b(x_w(-y_g + y_r) + x_r(y_g - y_w) + x_g(-y_r + y_w))Y_w}{(x_g y_b - x_r y_b - x_b y_g + x_r y_g + x_b y_r - x_g y_r)y_w}$$

Y_w 가

$x_w y_w$

Y_r, Y_g, Y_b ,

가

x_r, x_g, x_b , x ,
 y_r, y_g, y_b , y .
() (30).

(32).

(34). , 32
(36).

OLED , 가 (38).

$I=(L-b)/a$

, I ,

L ,

a b .
, 가
(40).

, (10)
(42). , 가

$T=cl^d$

, T ,

T ,

c d .

(44). 3
() (46). 3

44) 3 (48). (36, 40
(50),

3 ,
가 , 가 2 가 OLED 가
(A_m) 2 가 가
(54), (52)
(A_m) , 1, 2 3

(58),
(60). , (A_m)
(62). (A_m)
(64). , (A_m)
가
(66).
(68).
(70).
(72).
(
)
.
.
0) , (122), (92), (124), (126), (128), 4 (13
(116)
EL
500nm
OLED 가 (122)
EL
EL
.
EL (92)
zinc oxide, IZO) , (indium-tin oxide, ITO), (indium-
(:), (:) (:)
EL
4.1 eV
(sputtering),
(122) (126)
4,720,432 , 6,208,075
가 EL
EP 0 891 121 A1 EP 1 029 909 A1
(126) 1 3
1 1 3가
3
(Klupfel) 3,180,730 . 1
/ 1
(Brantley) 3,567,450 3,658,520
3
2 3
3
4,720,432 5,061,569
3
3

1,1- (4- - ρ -) ,
 1,1- (4- - ρ -)-4- ,
 4,4'- () ,
 (4- -2-)- ,
 N,N,N- (ρ -) ,
 4-(- ρ -)-4'-[4(- ρ -)-] ,
 N,N,N',N'- - ρ - -4-4'- ,
 N,N,N',N'- -4-4'- ,
 N,N,N',N'- -1- -4,4'- ,
 N,N,N',N'- -2- -4-4'- ,
 N- ,
 4,4'- [N-(1-)-N-] ,
 4,4'- [N-(1-)-N-(2-)] ,
 4,4'- [N-(1-)-N-] ρ - ,
 4,4'- [N-(2-)-N-] ,
 4,4'- [N-(3-)-N-] ,
 1,5- [N-(1-)-N-] ,
 4,4'- [N-(9-)-N-] ,
 4,4'- [N-(1-)-N-]- ρ - ,
 4,4'- [N-(2-)-N-] ,
 4,4'- [N-(8-)-N-] ,
 4,4'- [N-(2-)-N-] ,
 4,4'- [N-(2-)-N-] ,
 4,4'- [N-(2-)-N-] ,
 4,4'- [N-(1-)-N-] ,
 2,6- (- ρ -) ,
 2,6- [-(1-)] ,
 2,6- [N-(1-)-N-(2-)] ,
 N,N,N',N'- (2-)-4,4'- - ρ - ,

4,4- {N- -N-[4-(1-)-] } ,

4,4'- [N- -N-(2-)] ,

2,6- [N,N- (2-)] ,

1,5- [N-(1-)-N-] .

EP 1 009 041

(N-)(Poly(N-vinylcarbazole), PVK),
PEDOP/PSS (3,4-)/ (4-)가

4,769,292 5,935,721 EL
(LEL)(128) -

()

WO 98/55561 , WO 00/18851 , WO 00/5767

6 , WO 00/70655 가 0.01 10 %
(: (p-)),
PPV)가

가

가
(bandgap potential)

150,006	5,151,629	4,769,292	5,141,671	5,
3,788	5,645,948	5,405,709	5,484,922	5,59
02	5,935,720	5,683,823	5,755,999	5,928,8
		5,935,721	6,020,078	

8- ()

CO-1: [, (8-) (III)]

CO-2: [, (8-) (II)]

CO-3: [{f}-8-] (II)

CO-4: (2- -8-) (III)- μ - - (2- -8-) (III)

CO-5: [, (8-)]

CO-6: (5-) [, (5- -8-) (III)]

CO-7: [, (8-) (I)]

CO-8: [, (8-) (III)]

CO-9: [, (8-) (IV)]

9,10- -(2-) 가
5,121,029 , 2,2'2'-(1,3,5-
) [1- -1H-]

[illegible]

OLED
OLED
가 , EL 10/077,270 ()
OLED
OLED
가 가 CIE
가 5
(14R) (14G) (14B))가 2
6 , 가 10/077,270
, 2 2 가 가
6 (154) (156) (158)
(160) (156) (162.1), (164.1)
(166.1) (168.1)가 (168.1)
10/077,270
(168.1), (162.2), (164.2) (166.2)
(168.1, 168.2 168.3), 6 (162.1, 162.2, 162.3 162.4),
(164.1, 164.2, 164.3 164.4) (166.1, 166.2, 166.3 166.4)
6 4 2 3 가 , (169)
(158)가 , 3 3
가 (48). ,
RGB 가 OLED 6,358,631 10/0
77,270 가 7 가
10/077,270 2 OLED 6,358,631 (
7 (170) , (174.1), (176.1) (178.1) (172) (172)

(178.2) ITO (184)가 (180)가 (174.2), (176.2)가 (182) ITO (184)가 (172) 184 (186), (188), (190), (192), (194) ITO (196) (198), (200), (202), (204), (206) ITO (208) (G, R B) 2 3 가 , 3 가 (48).

8 가
(:) OLED , 2 () 가
(214), (216) (218) (212) (210)
() 가 (220 240) ITO (222 242) 2 3
2) (220 240) ITO (222 242) 2 3
(226) 3 (228) (224) (:) 2 ()
8 1 2 1 (short) 1

(226) 1 (224) 2 (226) (230), (232)
(234) ()
, 가 (236) ITO (238) .
3 (228) 1 (224) 3 (228) (244),
(246) (248) ()
. , 가 (250) ITO (252) . , 2 3

$$\frac{1}{2}, \frac{1}{3}, \frac{2}{3} \text{ 가 } \frac{1}{2}, \frac{2}{3} / \frac{2}{3}$$

1()

가 50% 가

가 , OLED 가 .

1 9 (offset)

10
1
1
2
1

[1]

x	0.6492	0.3118	0.1478
y	0.3474	0.6196	0.1909
	16.82	70.33	28.03
	0.0	0.0	0.0
	348006	116540	37234
	-1.4687	-1.6650	-1.3148
	0.5	0.5	0.5

2) 2 (

[2]

100%	100 cd/sq m
x	0.3128
y	0.3292
	0.60

1 2
, 0.125, 0.125 0.350 (1).
, : : 1:1:2.8 , 8285 , 8203 8589 8203 가
가 3 1 ,
1 2
20%가 ,
, 16523 , 17941 4115 가
, 3 가 50%
4115

6,366,025 , 1

1, 2 3 2 3 R:

G:B=0.62:1.0:0.69 가

1 가 R:G:B=16.8:70.33:29.93

142:0.0231 R:G:B=0.62/16.8:1.0/70.33:0.69/29.93=0.0369:0.0 R:G

:B=2.6:1.0:1.6 1 가 2.6

1.6 가

60% 가

0.3, 0.115, 0.185

3 가

29972 , 7140 3714

가 50%

3714

1

가

4.18 2.51 0.19

0.32, 0.078,

가

32,952 , 3741 3

847 0% 3 3741 가 5

OLED

(57)

1. 가 OLED

가

가 가

OLED

2.

1 ,

OLED

$A_i = f(E_i, T_i, Y_i)$

,

A_i ,

E_i ,

T_i ,

Y_i .

3.

2 ,

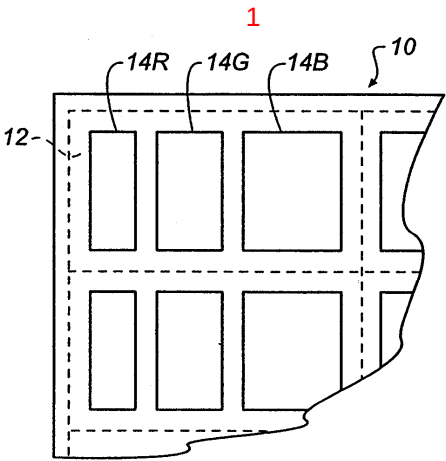
OLED

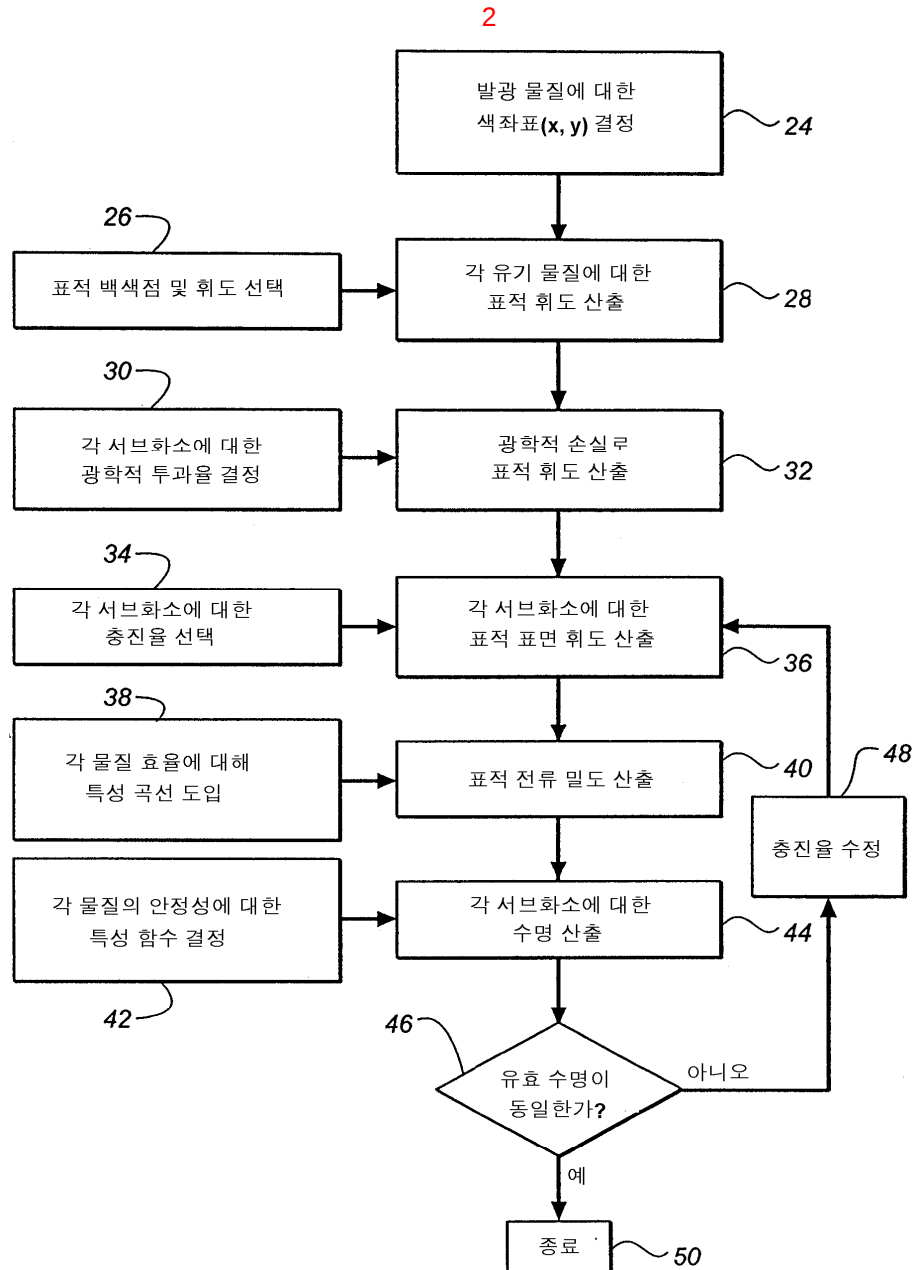
$Ti = cl^d$

,

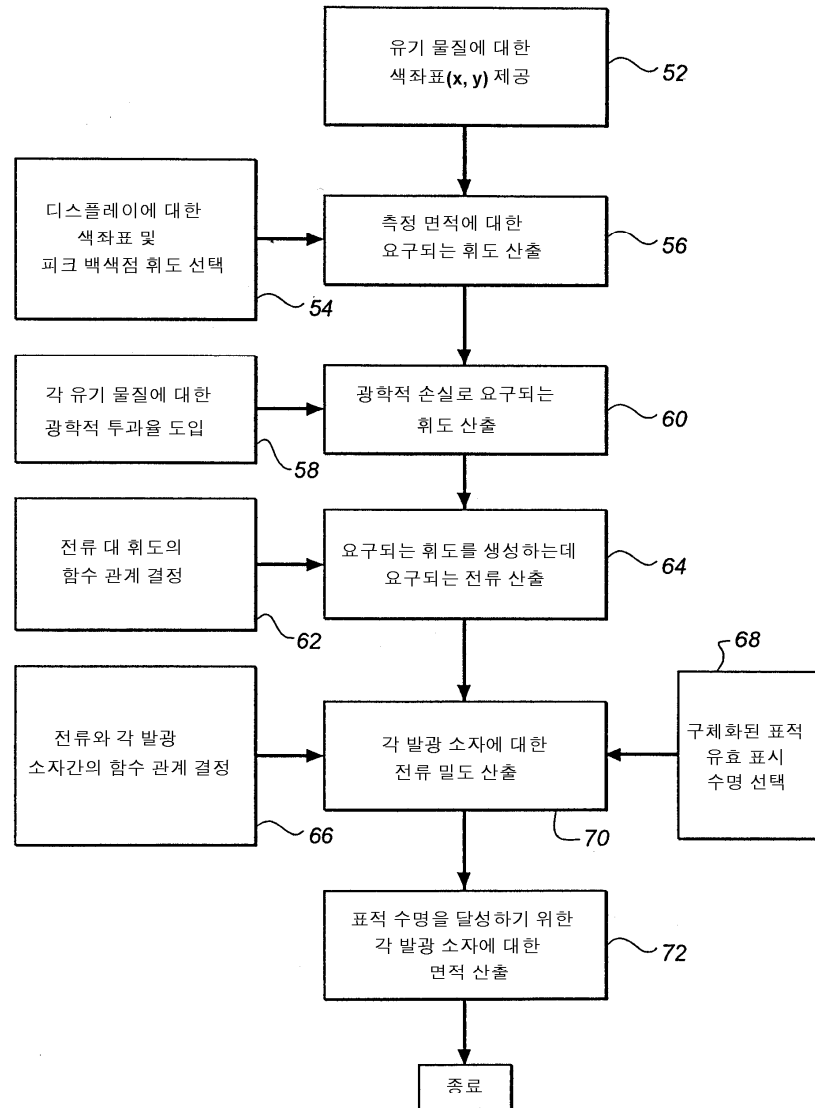
c^d ,

l .

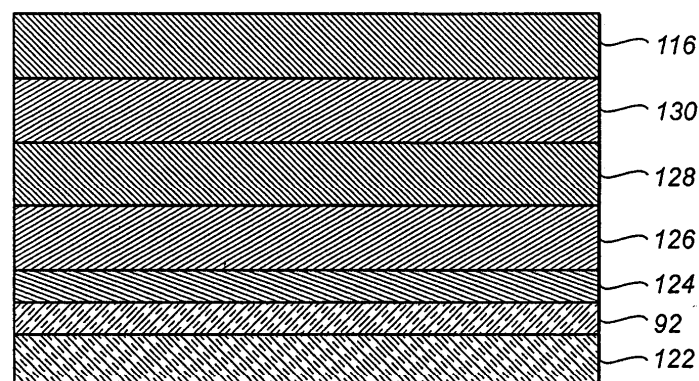


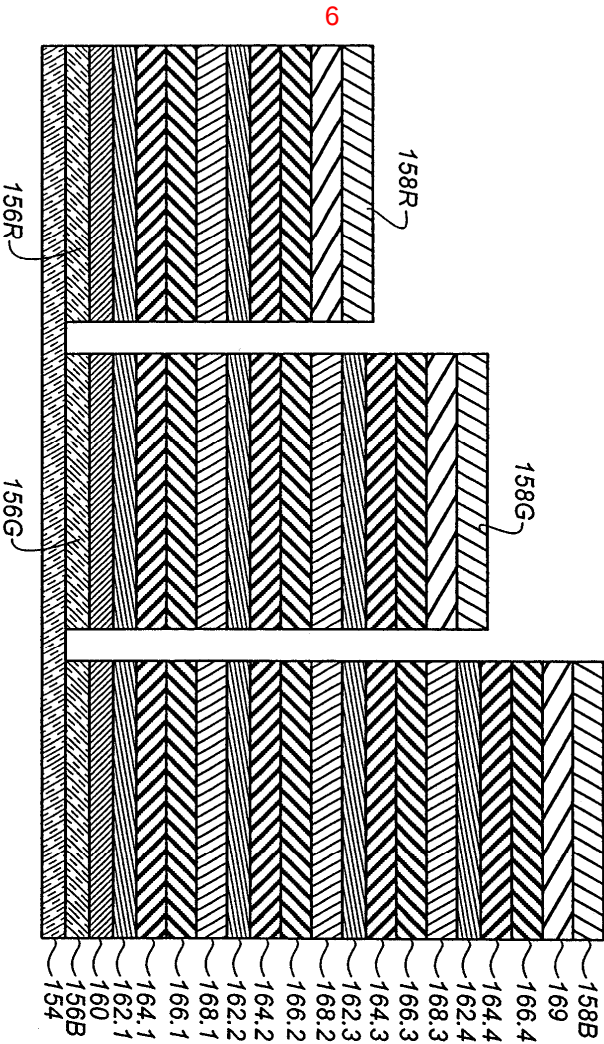
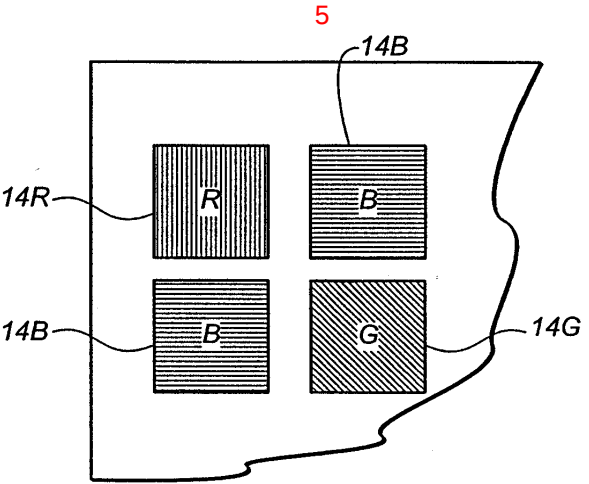


3

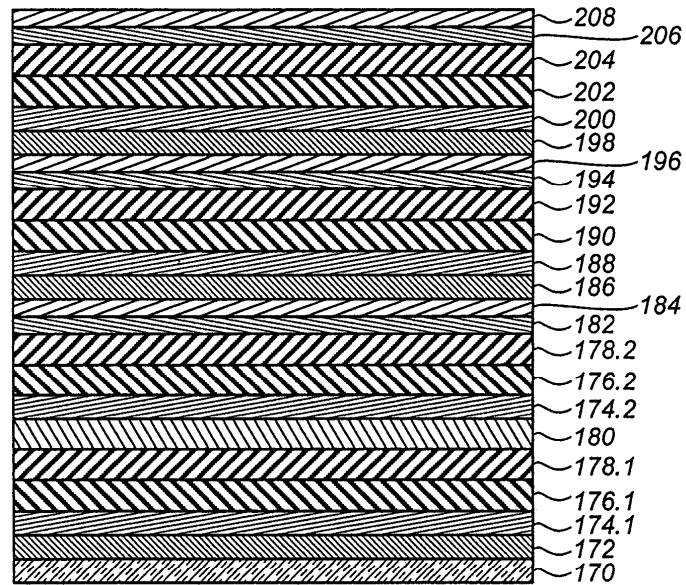


4

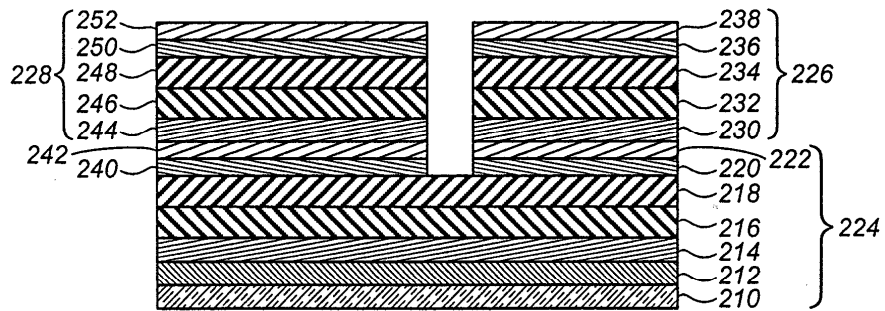




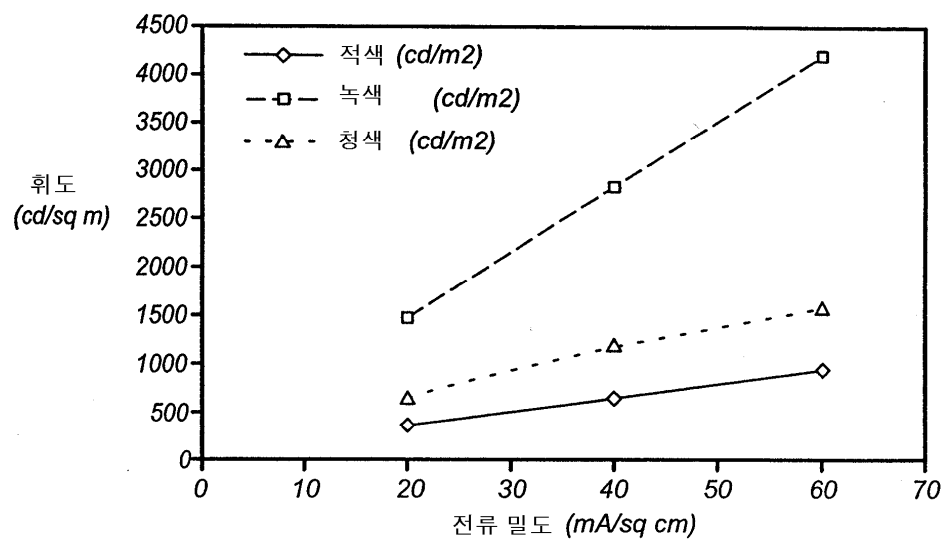
7

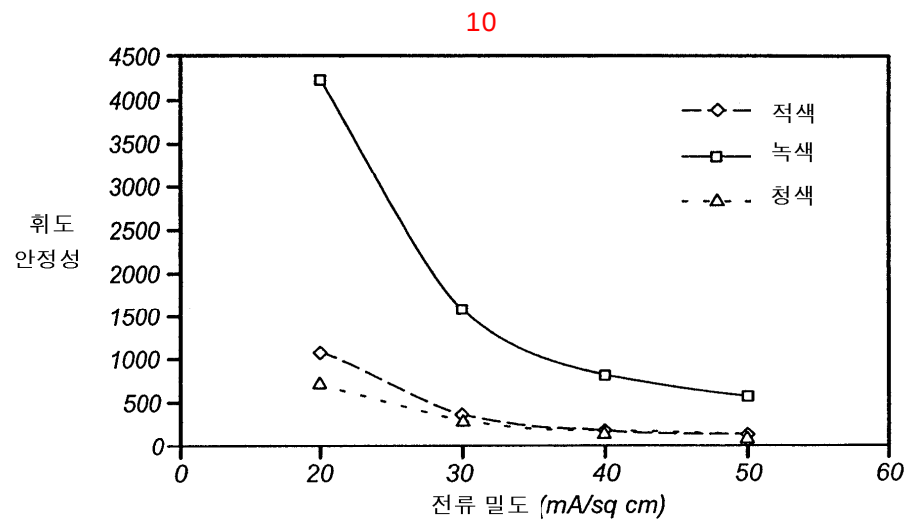


8



9





专利名称(译)	一种改进的终身彩色有机发光二极管显示器		
公开(公告)号	KR1020040017786A	公开(公告)日	2004-02-27
申请号	KR1020030057560	申请日	2003-08-20
[标]申请(专利权)人(译)	全球OLED TECH		
申请(专利权)人(译)	글로벌오엘이디테크놀로지엘씨		
当前申请(专利权)人(译)	글로벌오엘이디테크놀로지엘씨		
[标]发明人	ARNOLD ANDREW D 아놀드앤드류디 MILLER MICHAEL E 밀러마이클이 MURDOCH MICHAEL J 머독마이클제이		
发明人	아놀드앤드류디 밀러마이클이 머독마이클제이		
IPC分类号	H01L51/50 H01L27/32 H05B33/12 H05B33/14 H01L51/52 G09G3/32		
CPC分类号	G09G2300/0452 G09G2320/043 G09G3/3208 H01L27/3211 H01L27/3213 G09G3/3216 G09G3/3225 H01L51/5278 G09G2320/048 H01L27/3218		
代理人(译)	金勇 年轻的小公园		
优先权	10/224239 2002-08-20 US		
其他公开文献	KR100988903B1		
外部链接	Espacenet		

摘要(译)

本发明涉及一种OLED套环显示装置，该OLED套环显示装置基于发光装置的发光效率和目标显示白点的颜色，保护发光效率低的子像素，子像素的面积大小不同。OLED显示装置早期磨损；并且暗示作为改善以延长显示器的使用寿命，因为相对尺寸的红色，并且显示器处的绿色和蓝色子像素考虑红色，预期的颜色坐标的白点：绿色和蓝色发射子像素的显示和亮度：红色，填充因子（填充因子）：蓝色子像素的红色和绿色，子像素的光学透明度效果：最终显示绿色和蓝色子像素和红色的组成，以及根据时间的亮度恒定 - 绿色和蓝色发光材料，包括具有多个子像素的显示像素，其中颜色不同。

