



1

, , , ,

1 1 EL .

2 (a) , 1 EL ,

2 (b) ,

2 (c) ,

2 (d) .

3 EL .

4 (a) ,

4 (b) ,

4 (c) ,

4 (d) .

5 EL .

6 EL .

7 (a) 가 ,

7 (b) 가 ,

7 (c) 가 .

8 (a) , 1 EL , EL 가 ,

8 (b) , 1 EL , EL 가 .

9 (a) , 1 EL , EL 가  
 ,

9 (b) , 1 EL , EL 가  
 .

10 .

11 .

12 .

13 .

14 .

15 (a) ,

15 (b) .

16 (a) ,

16 (b) .

17 (a) ,

17 (b) .

18 (a) ,

18 (b) .

19 1 EL .

20 , 19 EL .

21 , 19 EL (louver) ,

22 .

23 .

24 , 21 EL 가 .

< >

1 :

2 :  
3 :  
4 :  
5 :  
6 :  
7 :

( , EL ) EL  
가 가 , EL

EL (前面側)  
( , EL ) EL , ,  
가 , ,

EL 1 EL ,  
가 ,

EL , EL EL  
, EL ,

" Social Information Display `99 Digest" (PP.372 - 375)( (1), 1999 )  
가 , , ,

, EL , EL ,  
, EL

2692671 ( (2), 1997 9 5 )  
EL

EL 가

2773720 ( (3), 1998 4 24 )

EL 가

2991183 ( (4), 1999 10 15 )  
EL 가

가

, " Social Information Display `99 Digest" (pp.185 - 187)(  
가

(5)

3

EL

EL 3

2

EL

60% 80%  
가

가

ITO

EL

EL

EL

2000 - 40584 ( (6), 2000 2 8 )

EL

가

EL

8 - 321381 ( (7), 1996 12 3 )  
EL

가

7 - 205322 ( (8), 1995 8 8 )

가

( )

가

EL 200nm  
EL

(1), (2), (3), (4) (5)

EL

EL

가,

EL

(6)

(7)

4 1  
EL

(8)

(最密 充填)

가

가

가

가

가

( )

EL

3 2

( )

EL

가

가

가

가가

가

1

2

2

가

가

1

가가

, 2 , 가

[ 1 ]

1 1 18 (b)

1 ( , EL )  
EL ( ) : 1), (2), EL 1 (3), (4), ( , : 5),  
(6) (7)

(2), EL (1), (3) EL (6) EL  
(4) (5) (7)  
(4) (6)  
EL (1) , EL (1)  
(2)

(2) ITO(Indium Tin Oxide) (2)  
(2) IZO(Indium Zinc Oxide) Aluminum Zinc Oxide

(3) , 30nm 가 (3)  
(3) ITO 가 (3)  
(3)  
(5) (5) ( )  
7) (3) (5)  
EL (1)

EL (1) 1 EL (1)  
, EL (1) 3 가 (2) , 가 (3)  
가 , 가 가 EL 가

EL (1) 가

, 5nm 5 $\mu$ m

, LB (Langmuir - Blodgett)

LB

가

가

EL

SiN

, 2 (a) 4 (d), 10, 11

(5)

2 (a) 2 (d)  
3

2 (a)  
2 (b)  
2 (c)

, 2 (c)

2 (d)

(20)

(20)

(21)

(22)

(23)

(20)

(21)

(21)

(23)

(20)

(21)

3

( )

(20)

(24)

(25)

(24)

(26)

(24)

(20)

(24)

2/3

(20)

(20)

가

2/3

, 1/3

10

가 EL

(型材)

V V

60°

60°

(雄型)

( : 雌型)

11

가 11

3 EL (1)  
(31) (32)가  
(32) (3),

(31) (4) (7)

EL (1)  
(2) (6)

(35)

(30)

(31), EL (1)

(30)

(35)

가

EL

EL (1)

가

(30)

EL

가 EL (1)

EL

(33)

EL

EL

(34)

EL

가

가

(30)

EL (1)

EL (1)

(33 - 34)

EL

가

가가

(33)

(34)

(a) (5) 가 3 , 4 (c) , 4 (b)

4 (b) , 4 (d) (41) (43) (41) (42) (41) (41)

{111} ( , ) 4 (b)

InP, InAs, ZnS, GaP

(electroforming mold)

(microbeads array)

(micro sphere)

(5)

4 (a) ( ) , 12, 13, 15 (a) 18 (b)

15 (a), 15 (b) (8) (8) (8) (5) (8)

15 (b) (8) (8b) (8a, 8c) (8d), (8d) (19) (8e) (8e)

가

16 (a), 16 (b) (8) (8b) (8a, 8c) (5) (29)가 (8) (29) (8) (8b) (8a, 8c)

(29) (8b) (8a) ,

15 (b) (29) , 16 (b) (8b) (8a, 8c) (8d)(8e)

, 16 (a) (29)가 (8) (8) , (29) (18) ,

, 가

, (29) 18 (a), 18 (b) (5)

, 17 (a), 17 (b) 15 (a), 15 (b) 가 (8) (8d), (28) (8b) (8a) (19) (8e) , (8d), (8d) (19) (8e) ,

, 18 (a), 18 (b) (29) (5) (29)가

, (29)가 (29)

12 , 18 (a) 가 3 가 3 , ( ) ,

가 3 ( , ) ,

), 13

, 5 (50) EL (3), (7) (5) ,

5 , (50) (6) , (2) , (50) 가 , EL (1) , 가 (50) , EL

, EL 가

, 가 EL (1) (50) EL

, 1/4 EL (1) EL (1) (50) EL (1) (50)

, EL EL (50) EL

, EL (5)

EL EL (1)

가

가 EL (1) EL

가 (1) EL

(3), (5) EL (1) (7) (2) 6 (2) (5) (60)

(5) EL (1) 6 EL (3) (3) (3) (3) 가 가 300nm

6 EL (1) (1) (5) EL (1)

(5) 7(a) 7 (c)

7 (a) 7 (c) 7 (a) 가 (5) (5) (5)

( ) 0.5mm, 5mm, 10mm, 25mm 4 12 EL (5)

( )

( )

(5) EL (5) 가 0.5mm 5mm EL (5) 가 10mm 25mm (5) EL

7 (a) 가 (5) , EL  
 (71) (5) , (72) .

7 (b), 7 (c) 가 (5) EL  
 (73) (5) , (74) .  
 (5) 가 ,

가 (5) , EL (75) 가 ,  
 (5) (76) (5)

(78) 2 (5) (5) (5) 가  
 (78) 2 (77) (77) (5) (78) 5mm 가  
 ( ) 10mm ( ) ( )

가 ( ) 14 , 가  
 ( ) ( ) ( ) ,  
 ( ) ,

( ) 2mm (奥澤康正 , 東山書房) (5) , 1mm

(5) ( ) 1mm .  
 가 ,

EL (1) (R), (G), (B) 3 , EL 가 (R), (G), (B)  
 1 EL (5) EL (1)

8 (a), 8 (b), 9 (a), 9 (b) .

8 (a) 9 (b) EL (1) EL (1R),  
 EL (1G) EL (1B) EL (1R), E  
 L (1G), EL (1B)

8 (a), 8 (b) (5) EL , 8 ( (b) , 8 (a) 가 , 8 ( 100 $\mu$ m , 8 (a) 가 25 $\mu$ m, 8 (b) 120 $\mu$ m .

8 (a) , (80) , (80) (82) (81) (82) , EL (1B) (80) 가 EL (1B) , (82) (81) EL

가 8 (b) EL (1G) (83) (85) , EL (1G) EL (1R) (84) 가 EL (1G) , E L (1) , EL (1) ,

EL (1) , EL (5) , 9 (a), 9 (b) (5) EL (5) EL

9 (a), 9 (b) (5) EL (5) 가 , 9 (b) (5) 9 (a) (5) 가 .

9 (a) EL (1B) (90) (5) , (91) 가 EL (1B) , (92) ,

(5) EL (1G) (5) 가 9 (b) (93) (95) , EL (1G) EL (1R) (94) 가 EL (1G) , EL (1) , (5) EL (1) ,

(5) , (5) EL (1) ,  
 , EL (5) ,  
 , (4) (6) , ( 1 ) , ( 2 )  
 ) 가 , EL , FED(  
 , (3) ,  
 , EL ( ) 1 , 2  
 EL (1) 2 EL ( : 1 ) , (5) , 가  
 , 가 1 EL (1) EL  
 , 가 , 가가 , EL (1)  
 , (5) , EL (1) 2 , EL  
 , (5) 1/2  
 , (5)  
 [ 2 ]  
 2 19 24 , , 1  
 ( 1 : 101)가 EL 1 19 EL (4)  
 ( 1 3M ) EL (101)  
 (101) (4) ( , (4) ) , EL  
 20 , EL 가 (112)  
 , (5) , EL ( (112) ) ,

, 19 (102) , (101) (101)가 . 19 EL (102) , , (102) (101) , , (5) 가 , . , 21 (121) , (121R · 121G · 121B) (121) , (122) , (121BM) EL , (121R · 121G · 121B) EL (121R · 121G · 121B) EL , 22 EL (121R · 121G · 121B) 22 (131), (132) (133)가 . (131) (131a) . (132) (131a) (133) (133)가 , 22 (131a) (134) , (132) , (133) 100% (134) , ( =0° ) , 23 (121) EL (121) EL with - cf (121) EL , no - cf (121) EL , (121R · 121G · 121B) , , 가 , (101) (121) 가 , , 24 EL (2 : 140) , 24 EL 21 EL ( EL ) EL (140) EL EL (140) , (141) EL EL (140) EL

(140) 4 ( (4, 6) )  
 (140) (101), (14  
 (121BM) EL (14  
 0)

EL (5) (5)  
 (101) (121)  
 0.5°  
 10mm 50cm  
 0.5°

EL

EL ( )

(101) (121) (101)  
 (121) 가

EL EL (1) (5)  
 (140)

EL EL  
 EL

가 가가

가

가 5mm

가 5mm ( ) 10mm

가 1mm

가

가 3

가

가 3

가,

가

가

1 가  
0.5

( )

1

가

1

가

1 가

1 가,

2

2

가

가 가

1

2

2

가

1

가 가

2

가

가,

가

1/2

(57)

가

1.

2.

1

가 5mm

3.

1

가 1mm

4.

1

5.

1

가 3

(底角)

6.

1

가 3

(three squares)

7.

1

가

8.

1 ,

1 가

9.

8 ,

1

10.

8 ,

1

11.

1 ,

2

12.

1 ,

13.

1 ,

2

2

가

14.

13 ,

15.

13 ,

1/2

16.

13 ,

1/2

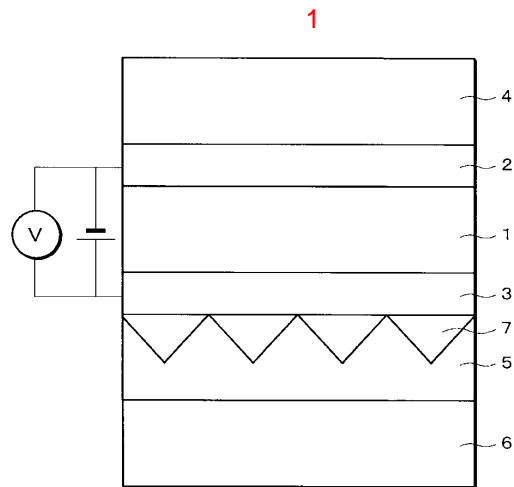
17.

13 ,

18.

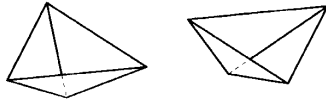
13 ,

가

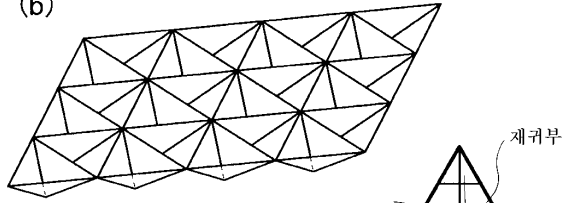


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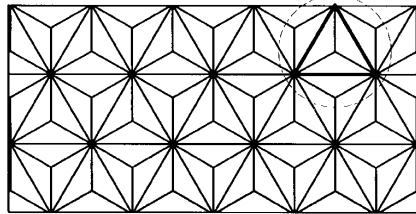
(a)



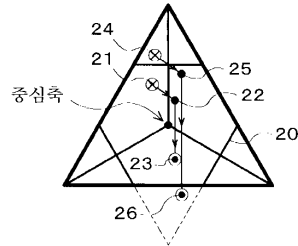
(b)



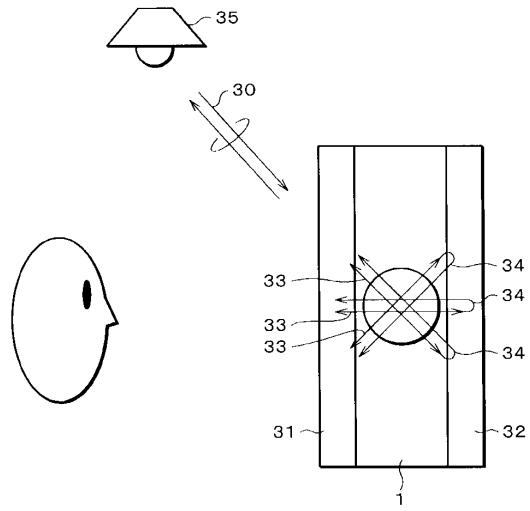
(c)



(d)

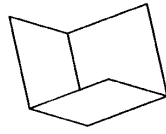


3

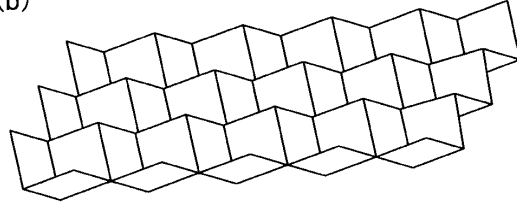


4

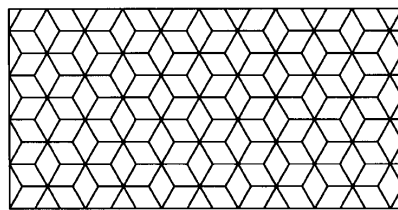
(a)



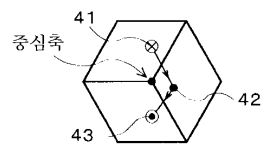
(b)



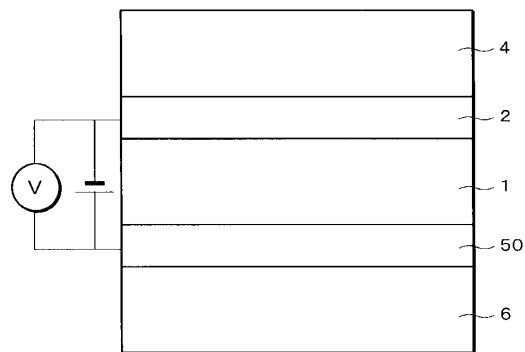
(c)



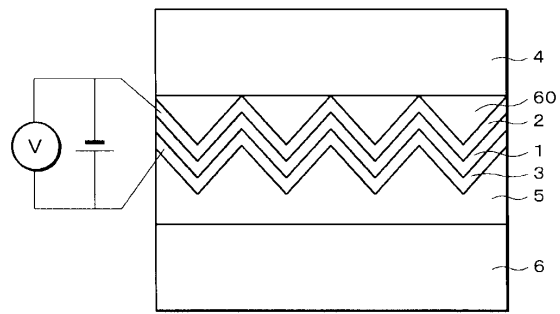
(d)



5

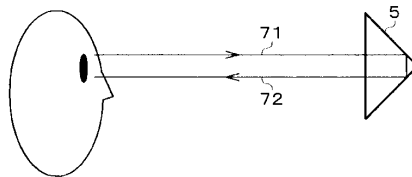


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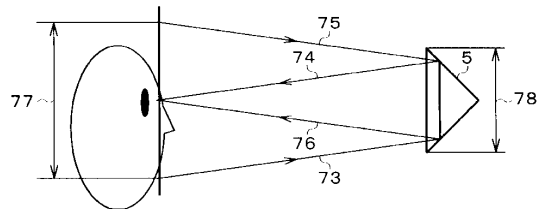


7

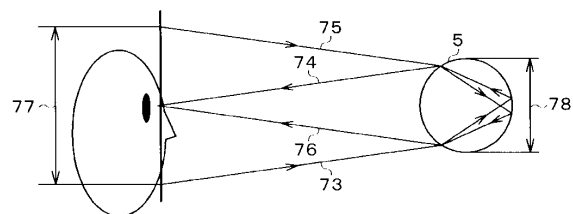
(a)



(b)

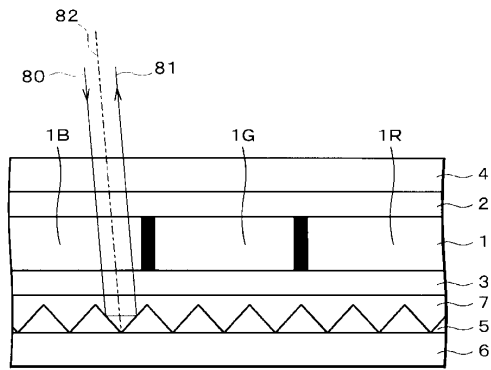


(c)

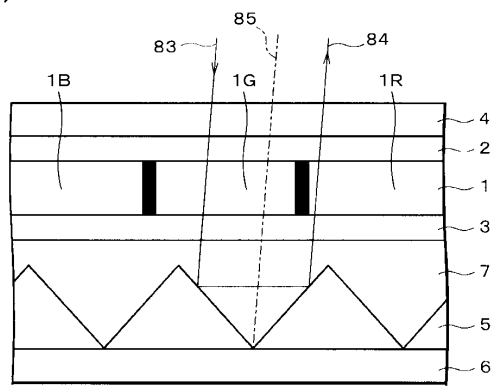


8

(a)

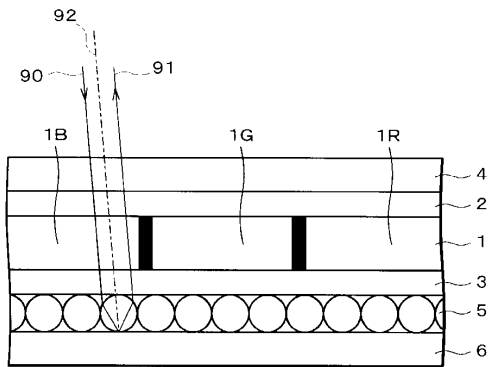


(b)

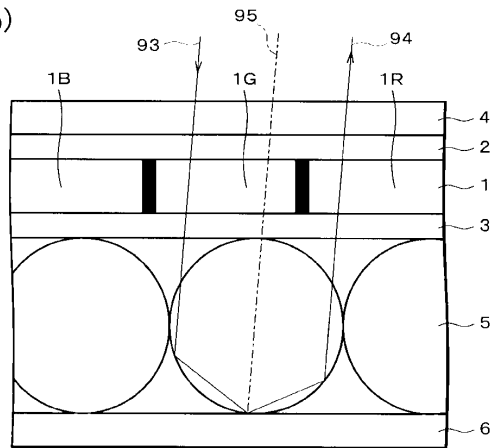


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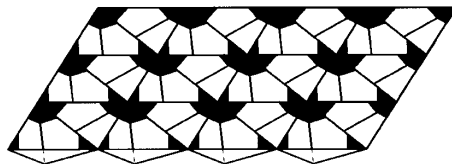
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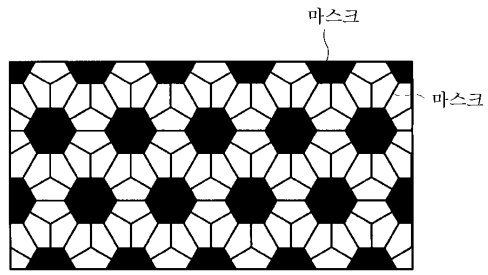
(b)



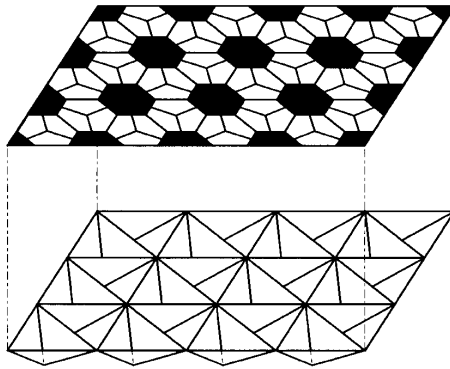
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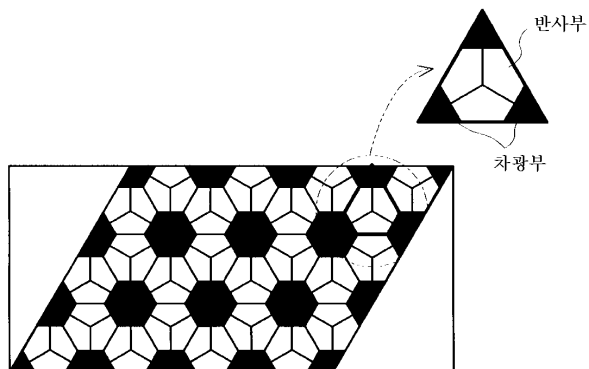
11



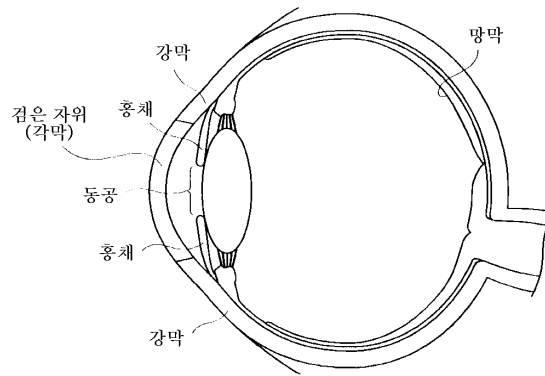
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13

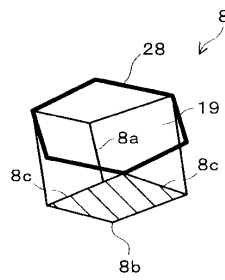


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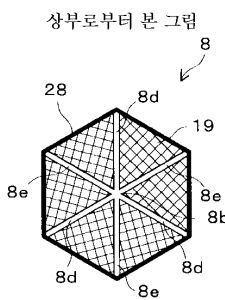


15

(a)

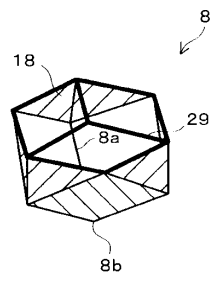


(b)



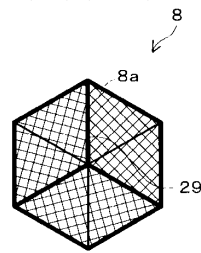
16

(a)



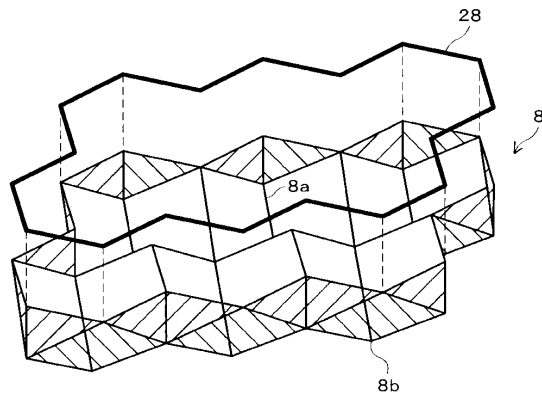
(b)

상부로부터 본 그림



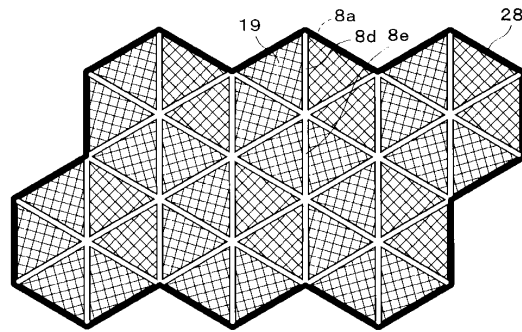
17

(a)



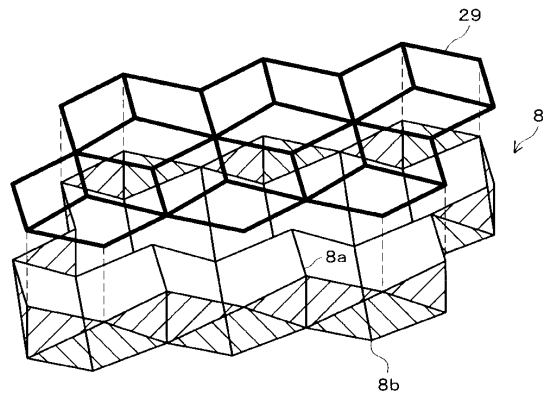
(b)

상부로부터 본 그림



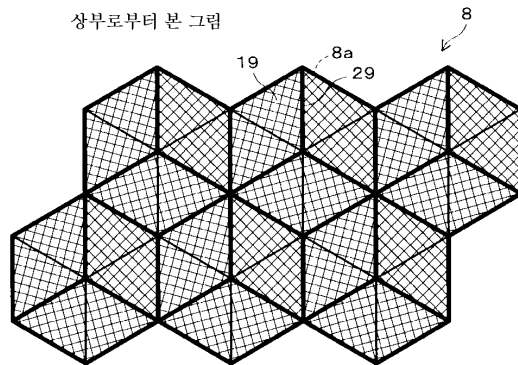
18

(a)

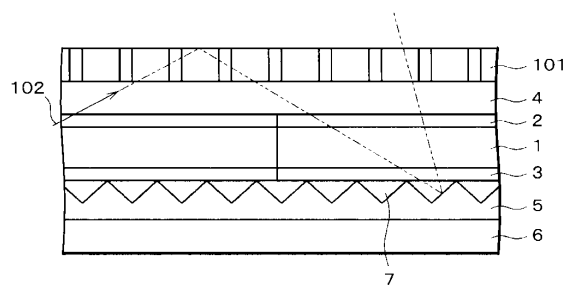


(b)

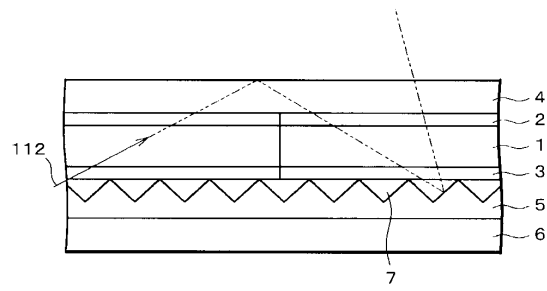
상부로부터 본 그림



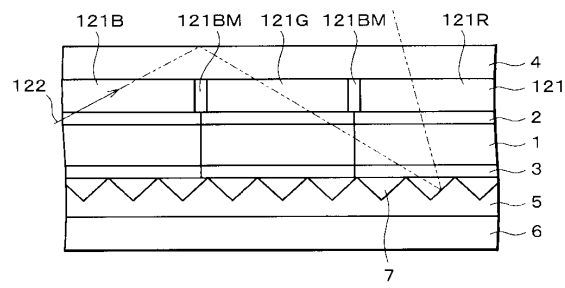
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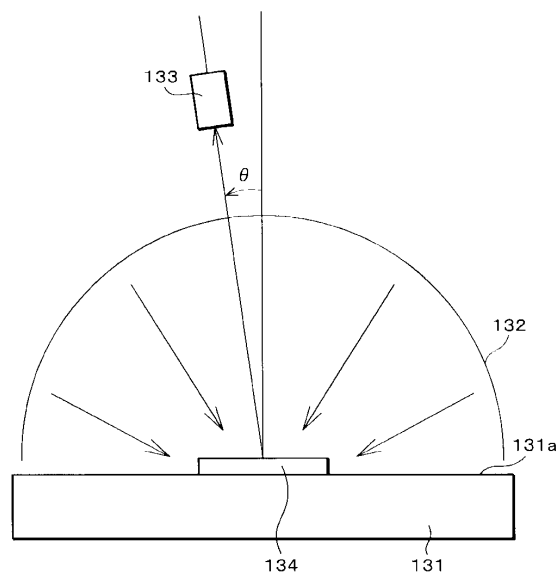
20



21

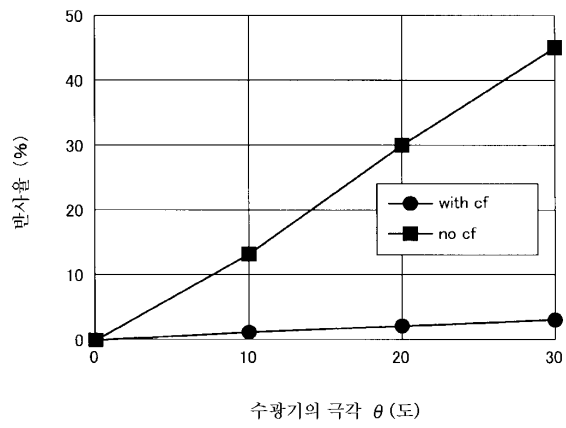


22

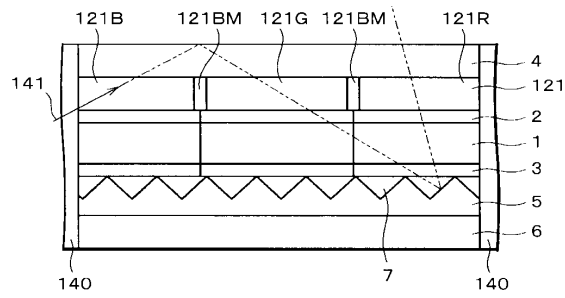


23

흑표시의 반사율의 극각 의존성



24



专利名称(译)	发射显示元素		
公开(公告)号	<a href="#">KR1020020033417A</a>	公开(公告)日	2002-05-06
申请号	KR1020010063883	申请日	2001-10-17
[标]申请(专利权)人(译)	夏普株式会社		
申请(专利权)人(译)	夏普株式会社		
当前申请(专利权)人(译)	夏普株式会社		
[标]发明人	MINOURA KIYOSHI 미노우라기요시 UEKI SHUN 우에끼순 TOMIKAWA MASAHIKO 도미가와마사히코		
发明人	미노우라기요시 우에끼순 도미가와마사히코		
IPC分类号	H05B33/22 H01L51/50 H05B33/14 G09F9/30 H01J1/70 H01L51/52 H05B33/12 H01L27/32 H05B33/00 H05B33/10 H05B33/24		
CPC分类号	H01L51/5271 H01L51/5262 H05B33/22 H01L51/5281 H01J1/70		
代理人(译)	CHANG, SOO KIL		
优先权	2000318328 2000-10-18 JP 2001228581 2001-07-27 JP		
其他公开文献	KR100520340B1		
外部链接	<a href="#">Espacenet</a>		

摘要(译)

用途：提供一种发光显示元件，通过改善结构，防止图像反射，从而显著提高对比度和发光利用效率。组成：有机EL显示元件包括有机EL（电致发光）层（1），透明电极（2），铝电极（3），前侧基板（4），后向反射器（5），背面基板（6）和平坦化膜（7）。透明电极（2），有机EL层（1）和铝电极（3）形成在由诸如透明玻璃板和聚合物膜的材料制成的前侧基板（4）上，朝向有机EL显示元件的背面按此顺序排列。后向反射器（5）和平坦化膜（7）依次朝向有机EL显示元件的前侧形成在后侧基板（6）上。此时，前侧基板（4）和后侧基板（6）设置为彼此面对。

