

Functional Color **Optical Diffusion**

Possible for changing both clear and diffusing color by switching on and off the LED


1. Material Optical Properties
 Total Luminous Transmittance, Haze

 Haze,
 Total Luminous
 Transmittance (τT)

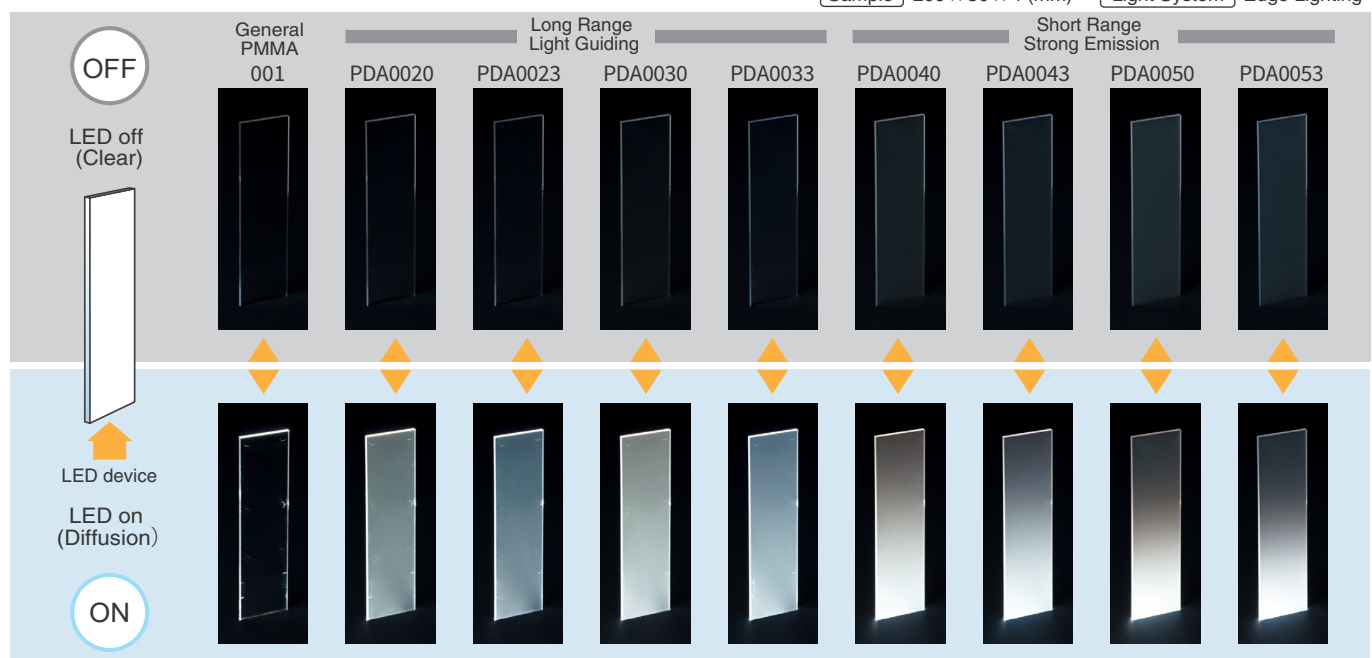
 Haze Meter (Model : HM-100 Murakami Color&Reserch Laboratory)
 JIS-K7361-1 (Total Luminous Transmittance Method)
 JIS-K7136 (Haze Method)

Color No.	Bluing Treatment	Effect	Total Luminous Transmittance (4mm)	Total Luminous Transmittance (2.5mm)	Haze (4mm)	Haze (2.5mm)
001	×	General PMMA	92.5	—	0.2	—
PDA0020	×	Long Range Light Guiding	91.0	91.7	1.6	1.5
PDA0023	○		90.6	91.5	1.9	1.5
PDA0030	×		89.8	91.2	3.2	2.6
PDA0033	○		89.4	90.8	3.1	2.5
PDA0040	×		Short Range Strong Emission	85.3	88.8	9.5
PDA0043	○	85.1		88.2	9.3	6.3
PDA0050	×	81.3		86.0	15.7	10.8
PDA0053	○	81.3		85.7	15.3	10.7

*The shown values are measured values, not standard values.

2. Appearance

[Sample] 200 × 50 × 4 (mm) [Light System] Edge Lighting



Luminance Measurement

*The shown values are measured values, not standard values.

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Measurement Setup

Luminance values are averaged within a circle of diameter 6 mm.
No filter is used.
Measurement setup is illustrated below.

PDA0020(Vertical)

Pt.	Luminance (cd/m ²)
C1	1404.7
C2	1012.2
C3	844.2
C4	788.2
C5	1068.3
C6	1485.8
C7	1085.7
C8	866.9
C9	798.1
C10	1269.2

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10
1.4									
1.7	1.2								
1.8	1.3	1.1							
1.3	1.1	1.3	1.4						
1.1	1.5	1.8	1.9	1.4					
1.3	1.1	1.3	1.4	1.0	1.4				
1.6	1.2	1.0	1.1	1.2	1.7	1.3			
1.8	1.3	1.1	1.0	1.3	1.9	1.4	1.1		
1.1	1.3	1.5	1.6	1.2	1.2	1.2	1.5	1.6	

Luminance ratio for each point

PDA0023(Vertical)

Pt.	Luminance (cd/m ²)
C1	1117.6
C2	748.3
C3	585.5
C4	498.0
C5	609.5
C6	1248.7
C7	812.6
C8	612.6
C9	519.1
C10	907.3

C2	C3	C4	C5	C6	C7	C8	C9	C10
1.5								
1.9	1.3							
2.2	1.5	1.2						
1.8	1.2	1.0	1.2					
1.1	1.7	2.1	2.5	2.0				
1.4	1.1	1.4	1.6	1.3	1.5			
1.8	1.2	1.0	1.2	1.0	2.0	1.3		
2.2	1.4	1.1	1.0	1.2	2.4	1.6	1.2	
1.2	1.2	1.5	1.8	1.5	1.4	1.1	1.5	1.7

Luminance ratio for each point

PDA0030(Vertical)

Pt.	Luminance (cd/m ²)
C1	2238.1
C2	1421.9
C3	1030.6
C4	833.0
C5	862.4
C6	2315.0
C7	1523.7
C8	1070.3
C9	863.2
C10	1039.6

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10
1.6									
2.2	1.4								
2.7	1.7	1.2							
2.6	1.6	1.2	1.0						
1.0	1.6	2.2	2.8	2.7					
1.5	1.1	1.5	1.8	1.8	1.5				
2.1	1.3	1.0	1.3	1.2	2.2	1.4			
2.6	1.6	1.2	1.0	1.0	2.7	1.8	1.2		
2.2	1.4	1.0	1.2	1.2	2.2	1.5	1.0	1.2	

Luminance ratio for each point

PDA0033(Vertical)

Pt.	Luminance (cd/m ²)
C1	1917.2
C2	1264.6
C3	862.2
C4	628.5
C5	614.0
C6	2186.6
C7	1326.5
C8	856.9
C9	729.0
C10	690.4

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10
1.5									
2.2	1.5								
3.1	2.0	1.4							
3.1	2.1	1.4	1.0						
1.1	1.7	2.5	3.5	3.6					
1.4	1.0	1.5	2.1	2.2	1.6				
2.2	1.5	1.0	1.4	1.4	2.6	1.5			
2.6	1.7	1.2	1.2	1.2	3.0	1.8	1.2		
2.8	1.8	1.2	1.1	1.1	3.2	1.9	1.2	1.1	

Luminance ratio for each point

PDA0040(Vertical)

Pt.	Luminance (cd/m ²)
C1	6534.1
C2	3015.6
C3	1260.1
C4	547.6
C5	307.6
C6	7287.9
C7	3101.8
C8	1261.6
C9	544.5
C10	327.1

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10
2.2									
5.2	2.4								
11.9	5.5	2.3							
21.2	9.8	4.1	0.6						
1.1	2.4	5.8	13.3	23.7					
2.1	1.0	2.5	5.7	10.1	2.3				
5.2	2.4	1.0	2.3	4.1	5.8	2.5			
12.0	5.5	2.3	1.0	1.8	13.4	5.7	2.3		
20.0	9.2	3.9	1.7	1.1	22.3	9.5	3.9	1.7	

Luminance ratio for each point

PDA0043(Vertical)

Pt.	Luminance (cd/m ²)
C1	5744.0
C2	2520.3
C3	998.5
C4	415.3
C5	218.5
C6	6390.8
C7	2609.3
C8	1008.2
C9	411.9
C10	227.0

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10
2.3									
5.8	2.5								
13.8	6.1	2.4							
26.3	11.5	4.6	0.5						
1.1	2.5	6.4	15.4	29.3					
2.2	1.0	2.6	6.3	11.9	2.4				
5.7	2.5	1.0	2.4	4.6	6.3	2.6			
13.9	6.1	2.4	1.0	1.9	15.5	6.3	2.4		
25.3	11.1	4.4	1.8	1.0	28.2	11.5	4.4	1.8	

Luminance ratio for each point

PDA0050(Vertical)

Pt.	Luminance (cd/m ²)
C1	9714.1
C2	2860.2
C3	789.8
C4	233.4
C5	107.8
C6	10837.5
C7	2915.1
C8	780.9
C9	243.7
C10	105.0

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10
3.4									
12.3	3.6								
41.6	12.3	3.4							
90.1	26.5	7.3	2.2						
1.1	3.8	13.7	46.4	100.6					
3.3	1.0	3.7	12.5	27.0	3.7				
12.4	3.7	1.0	3.3	7.2	13.9	3.7			
39.9	11.7	3.2	1.0	2.3	44.5	12.0	3.2		
92.5	27.2	7.5	2.2	1.0	103.2	27.8	7.4	2.3	

Luminance ratio for each point

PDA0053(Vertical)

Pt.	Luminance (cd/m ²)
C1	9287.1
C2	2573.2
C3	691.4
C4	207.5
C5	95.7
C6	10713.3
C7	2624.0
C8	694.7
C9	206.2
C10	98.0

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10
3.6									
13.4	3.7								
44.8	12.4	3.3							
97.1	26.9	7.2	2.2						
1.2	4.2	15.5	51.6	112.0					
3.5	1.0	3.8	12.6	27.4	4.1				
13.4	3.7	1.0	3.3	7.3	15.4	3.8			
45.0	12.5	3.4	1.0	2.2	52.0	12.7	3.4		
94.8	26.3	7.1	2.1	1.0	109.3	26.8	7.1	2.1	

Luminance ratio for each point

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