

Lighting Solutions

Anodized aluminum offers an excellent material for louver and reflector applications and Lorin Industries offers a basic portfolio of material solutions targeted to meet those market requirements.



Typical Lighting Sheet Grades

	Level 1	Level 2	Level 3	Level 4
Finish Description	Enhanced	Specular	Semi-Specular	Diffuse
Aluminum Finish	Bright Mill Finish	Bright Mill Finish	One Side Bright	Mill Finish
Surface Finish	Vapor Deposition	Brightened	Brightened	Brightened
Typical Reflectance	95 TR	86 TR	82 TR	82 TR

How Much Reflectance Do You Really Need?

For years now the metals industry has sold anodized and enhanced aluminum in terms of *Total Reflectance* – the amount of light reflected off of the aluminum surface.

- Anodized Aluminum – Typical TR of 86-87%
- Enhanced / Vapor Deposition Aluminum – Typical TR of 95%

A more important consideration in selecting a lighting reflector is how much light it will generate – *Lumens* – combined with how much light actually illuminates the surface – a *Foot Candle*.

How much better is vapor deposition than anodized aluminum in lighting reflector applications?

Lorin recently had ITL Boulder complete an independent evaluation of our anodized aluminum product against a vapor deposition product for light output and efficiency.

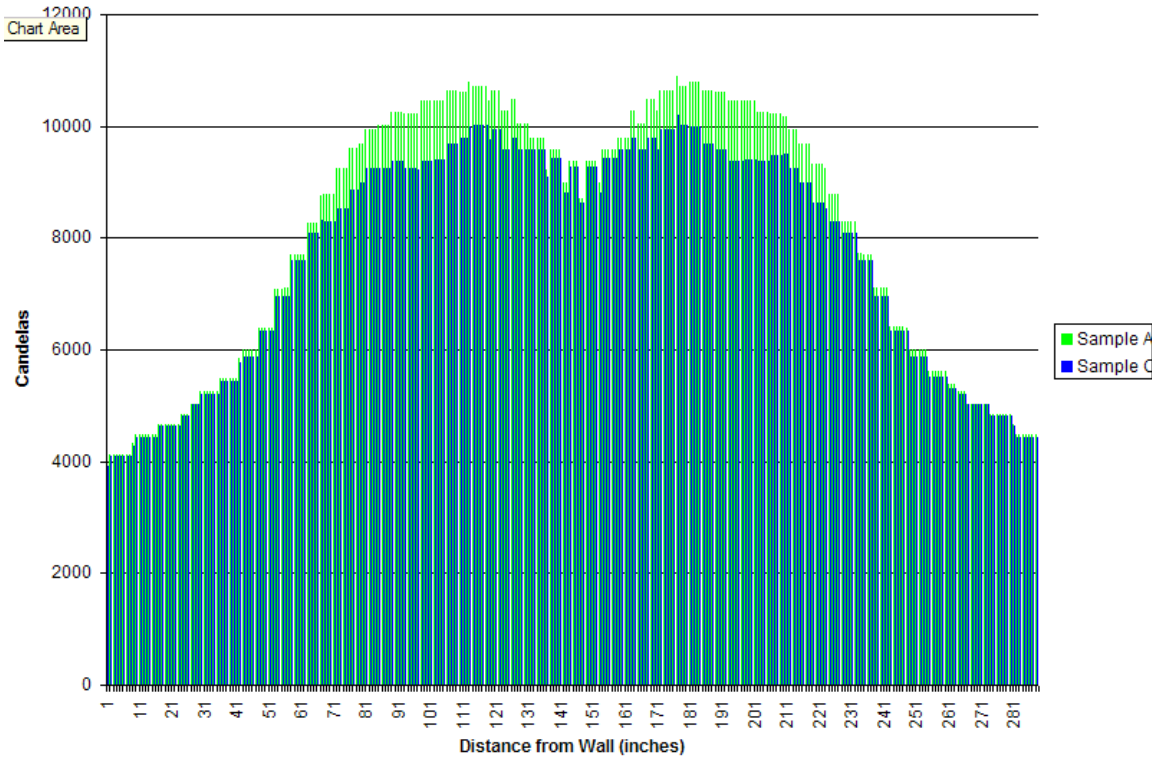
The Results?

The following numerically compares two identical fixtures; the Lorin PreMirror 41 product compared against a competitive product produced from a vapor deposition material. See much of a difference? We didn't either.

Description	Finish Type	TR	Light Output Data				
			Average	Max	Min	Max/Min	Avg/Min
PreMirror 41	Anodized	86	34.3 fc	40.5 fc	18.2 fc	2.2:1	1.9:1
Supplier A	Vapor Deposition	95	36.4 fc	43.2 fc	18.9 fc	2.3:1	1.9:1

If you are more of a visual person than a number person – we can help with that as well. The chart below layers the light output and efficiency comparing the performance of the same two louvers in the same test room.

Sample A = Vapor Deposition
 Sample C = Anodized Aluminum



Features & Benefits of Anodized in Lighting Applications

- **The Clean Advantage** – Anodized aluminum offers durability by resisting corrosion, heat and humidity. Our products will not chip, flake, peel or release toxic fumes and will not yellow with age and exposure. The static free surface will not attract dust and offers simple maintenance.
- **The Bottom Line Advantage** – With energy and material costs rising, can you afford to pay a premium for more product than you really need? Reflectance is one thing – PERFORMANCE is another.

Lighting Solutions Standard Portfolio Offering

Specular Finish Products

	PreMirror 41	PreMirror 41M	PreMirror OPTIMA	PreMirror 11
Visual Clarity	High	High	High	High
Optic Performance				
Reflectance	86 min	86 min	86 min	85 min
With Grain	71-88		71-88	64-87
Against Grain	57-89		57-89	46-89
Material / Anodize Finish Standards				
Alloy	1100	5657	1085	1100
Temper	Full Hard	Half Hard	Full Hard	Full Hard
Aluminum Finish	Bright Mill Finish	One Side Bright	Bright Mill Finish	Bright Mill Finish
Anodize Finish	Electro Polished	Brightened	Brightened	Electro Polished
Anodic Film	0.060 mil	0.060 mil	0.060 mil	0.225 mil
Quality Grade	1	1	1	1

Semi-Specular & Diffuse Finish Products

	Semi-Specular		Diffuse	
	DuraMatt 5001	DuraMatt 3001	DuraMatt 3000	DuraMatt 30
Visual Clarity	Medium	Medium	Medium	Medium
Optic Performance				
Reflectance	82 min	82 min	82 min	75 min
With Grain	42-56	29-37	10-50	
Against Grain	24-49	26-33	4-20	
Material / Anodize Finish Standards				
Alloy	0525	5205	5205	5205
Temper	Half Hard	Half Hard	Half Hard	Half Hard
Aluminum Finish	One Side Bright	One Side Bright	Mill Finish	Mill Finish
Anodize Finish	Brightened	Brightened	Brightened	Clean
Anodic Film	0.200 mil	0.200 mil	0.100 mil	0.100 mil
Quality Grade	1	1	3	3

Product Enhancements & General Information

Reflector versus Louver Applications – Lorin recommends thicker anodic films for lighting louver applications and thin anodic films for back reflector applications.

Surface Protection – We recommend that surface protection be applied to all specular / high reflective finish products and any product with a thin anodic film to prevent scratching during the production process.

Material Inspection – Lorin products are not inspected for iridescence. Iridescence levels can be reduced with slight increases in the anodic film specified. (See Reflector versus Louver Applications above.)