

CLOSE-TO-CEILING APPLICATIONS

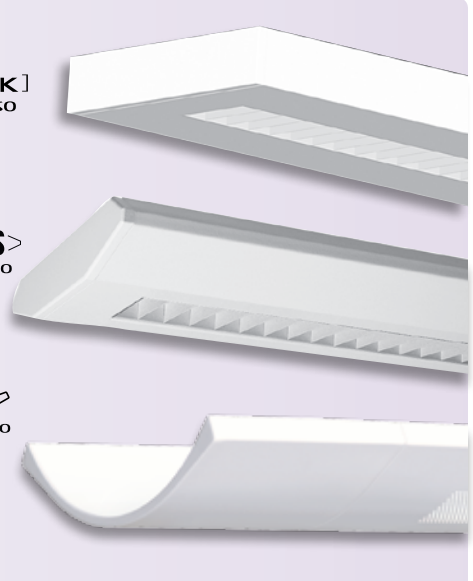
Alera Lighting offers the Plus Liso optical light delivery system. Alera products with Plus Liso light delivery optics are high performance, aesthetically diverse architectural luminaires.

- Plus Liso allows mounting of 12" to the bottom of the housing
- Low ceiling applications
- Close-to-ceiling mounting
- Direct/indirect or indirect products offered
- Wide choice of fixture style and shielding
- Industry standard lamp and ballast
- Economical
- Energy savings
- The highest performance package on the market

[PLANK]
PLUS LISO

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PLUS LISO

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PLUS LISO



ENERGY AND LUMINAIRE EFFICIENCY APPLICATIONS/TERMINOLOGY

Total Luminaire Efficiency = the ratio of total lumen output of a luminaire and the lumen output of the lamps expressed as a percentage

LER = Luminaire Efficacy Rating. It is a single value that expresses the efficacy of the luminaire (the luminaire's light output divided by the input power). This is available with Alera photometrics and on Alera specification sheets. It is calculated and shown on the top right-side of the photometric report.

$$\text{LER} = \frac{[\text{Luminaire efficiency (EFF)} \times \text{Total Rated Lamp Lumens (TLL)} \times \text{Ballast Factor (BF)}]}{\text{Luminaire Watts Input}}$$

References: <http://www.NEMA.org> and the National Lighting Collaborative

Photometric Report

LUMINAIRE: PLK-1TS-WCB-EBS
 Plank Architectural Beam
 9.75 X 48 1-LAMP WITH GLOSS WHITE CENTER LOUVER AND OPAL OVERLAY
 BALLAST: REL-1P32-9C
 BALLAST FACTOR: 0.90

TEST #14038
 DATE: 9/16/2005
TOTAL LUMINAIRE EFFICIENCY = 94.9%
LUMINAIRE EFFICACY RATING (LER) = 71

ANSI/IESNA RP-1-2004 COMPLIANCE: YES-VDT INTENSIVE USE
 COMPARATIVE YEARLY LIGHTING ENERGY COST PER 1000 LUMENS = \$3.16
 BASED ON 3000 HRS. AND \$.08 PER KWH

INDOOR CANDELA PLOT

CAVITY REFLECTANCE = 20%
 ZONAL CAVITY METHOD

ROW	70%	50%	30%	10%	0%	70%	50%	30%	10%	0%	50%	30%	10%	0%
0	97	97	97	97	97	86	86	86	86	86	66	66	47	29
1	89	85	81	78	78	75	72	70	58	55	54	41	40	26
2	81	74	69	64	71	66	61	57	51	48	45	36	35	22