

## TECH DATA

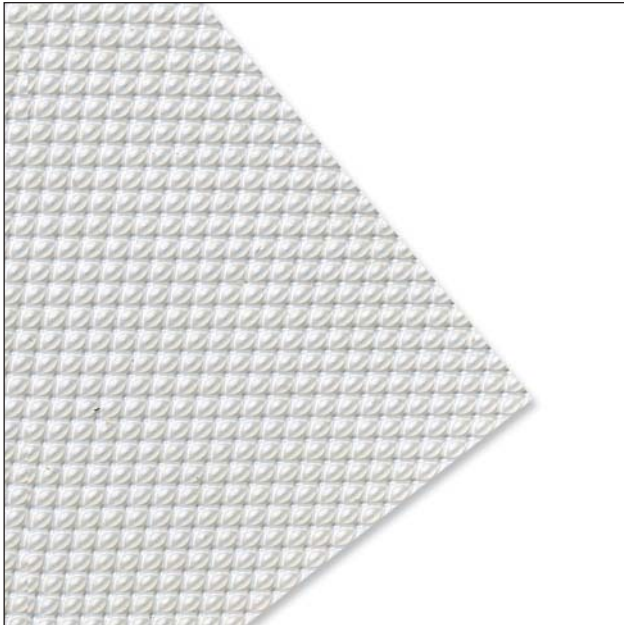
PROJECT: \_\_\_\_\_  
 MATERIAL: \_\_\_\_\_  
 FINISH: \_\_\_\_\_  
 SIZE: \_\_\_\_\_  
 OPTIONS: \_\_\_\_\_  
 QUANTITY: \_\_\_\_\_



## LENSES & DIFFUSERS

# K12

### FEMALE CONICAL PRISMS



K12 is a quality extruded lens with a square base female conical prism pattern that yields excellent light output and very good brightness control. The diagonally oriented prism pattern, with optically designed square inversed prisms make the K12 an exceptionally strong, lightweight sparkling panel that provides excellent light control.

The Liteline K12 pattern has become a standard in the industry, offering economy with quality.

### APPLICATIONS:

- Schools
- Hospitals
- Nursing homes
- Commercial area lighting



A (THICKNESS): .095", .110", .125"  
SECTION

### SPECIFICATIONS:

K12 lenses shall be as manufactured by Liteline Corporation. Standard thicknesses are .095", .110" and .125". Prism shall be 3/16" square based female cones aligned 45° to the length and width of the panel. Minimum prism depth shall be .080". In a nominal 2' x 4' fixture with four, 40 watt lamps each rated at 3200 lumens, minimum luminaire efficiency shall be 68%. Maximum average luminance in the 65°-85° zone shall be 675 footlamberts. The ratio of maximum to average luminance shall be 2.2 or less at 0° nadir.

At Liteline, K12 panels come with a pre-stressed arch to ensure that the panel maintains a flat span along its length. In addition, all panels are destatisized for minimum maintenance.

### NOMINAL PANEL SIZES

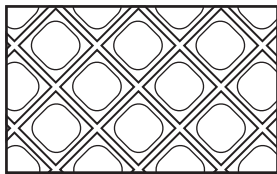
# 1' x 4'

# 2' x 2'

# 2' x 4'

# 4' x 8'

# CUSTOM



PLAN



**LENSES & DIFFUSERS**

**K12**

**FEMALE CONICAL PRISMS**

**ORDERING:**

CATALOGUE No.	COLOUR	DIMENSIONS	NORMAL THICKNESS	CARTON QUANTITY
<b>ACRYLIC PANELS</b>				
K12-14 CA	CLEAR	11 3/4" x 47 3/4"	.095"	30
K12-22 CA	CLEAR	23 3/4" x 23 3/4"	.095"	30
K12-24 CA	CLEAR	23 3/4" x 47 3/4"	.095"	15
K12-24 CA-F-110	CLEAR	24" x 48"	.110"	15
K12-14 CA-110	CLEAR	11 3/4" x 47 3/4"	.110"	30
K12-22 CA-110	CLEAR	23 3/4" x 23 3/4"	.110"	30
K12-24 CA-110	CLEAR	23 3/4" x 47 3/4"	.110"	15
K12-4997 CA 112	CLEAR	49" x 97"	.112"	30
K12-14 OA-110	WHITE	11 3/4" x 47 3/4"	.110"	50
K12-22 OA-110	WHITE	23 3/4" x 23 3/4"	.110"	50
K12-24 OA-110	WHITE	23 3/4" x 47 3/4"	.110"	25
K12-24 CA-125F	CLEAR	24" x 48"	.125"	15
K12-14 CA-125	CLEAR	11 3/4" x 47 3/4"	.125"	30
K12-22 CA-125	CLEAR	23 3/4" x 23 3/4"	.125"	30
K12-24 CA-125	CLEAR	23 3/4" x 47 3/4"	.125"	15
K12-4997 CA-125	CLEAR	49" x 97"	.125"	30
<b>POLYSTYRENE PANELS</b>				
K12-24 CS	CLEAR	23 3/4" x 47 3/4"	.095"	25
K12-24 OS	CLEAR	23 3/4" x 47 3/4"	.095"	25
<b>IMPACT MODIFIED ACRYLIC PANELS</b>				
K12-14 CA-DR	CLEAR	11 3/4" x 47 3/4"	.110"	30
K12-22 CA-DR	CLEAR	23 3/4" x 23 3/4"	.110"	30
K12-24 CA-DR	CLEAR	23 3/4" x 47 3/4"	.110"	15
<b>POLYCARBONATE PANELS</b>				
K12-14 CP-125	CLEAR	11 3/4" x 47 3/4"	.125"	50
K12-22 CP-125	CLEAR	23 3/4" x 23 3/4"	.125"	50
K12-24 CP-125	CLEAR	23 3/4" x 47 3/4"	.125"	25
<b>ULTRA-VIOLET INHIBITING</b>				
K12-14 UVALITE	CLEAR	11 3/4" x 47 3/4"	.125"	50
K12-22 UVALITE	CLEAR	23 3/4" x 23 3/4"	.125"	50
K12-24 UVALITE	CLEAR	23 3/4" x 47 3/4"	.125"	25
<b>ULTRA-VIOLET TRANSMITTING</b>				
K12-14 UTRANS	CLEAR	11 3/4" x 47 3/4"	.125"	50
K12-22 UTRANS	CLEAR	23 3/4" x 23 3/4"	.125"	50
K12-24 UTRANS	CLEAR	23 3/4" x 47 3/4"	.125"	25

Note: Custom sizes are available, contact Liteline with your requirements.

**ACRYLIC MATERIAL USED MEETS OR EXCEEDS RECOGNIZED STANDARDS**

The acrylic used in Liteline prismatic lighting panels is 100% high modular weight virgin PMMA material meeting Grade 8 requirements as set forth in table 2 of ASTM D-788-69a. It exceeds IES-NEMA-SPI standards for acrylic material by 100%. Under normal interior conditions these panels will perform satisfactorily for 20 years.

**APPROVED BY MAJOR BUILDING CODES**

Liteline lighting panels meet all requirements for approval of acrylic plastic for use as light diffusers and lenses as specified in building codes throughout the country. A few representative building code approvals include the following:

- Building Officials and Code Administrators International Report 54-12A
- International Conference of Building Official Report 1084
- Interim Federal Specification W-F-001662 (GSA-FSS)

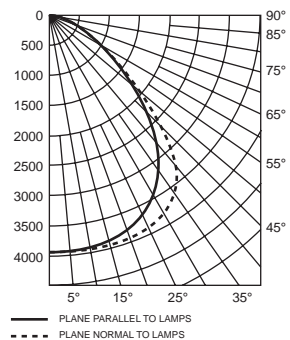
A typical approval attests to conformance of acrylic material from which a Liteline lens is produced, to standards for burn rates and smoke density tested in accordance to ASTM & UL standards.

**TECHNICAL SUPPORT**

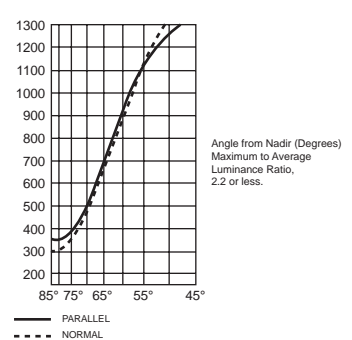
Building Acoustics & Lighting Laboratories Inc. Report No. 3407.0  
 Date: 9-19-83. **Description:** K12 Clear Acrylic Lens (.125") in a Commercially Available 2' x 4' Troffer with 4-3200 lumen lamps.  
 Fixture Reflectance=90%. Nadir Candlepower 3902.

Efficiency Degree	0-40°	0-60°	0-90°
Percent	42.1%	64.6%	71.4%

**CANDLEPOWER DISTRIBUTION**



**LUMINANCE IN FOOTLAMBERTS**



**COEFFICIENTS OF UTILIZATION-ZONAL CAVITY METHOD**

RC	EFFECTIVE FLOOR CAVITY REFLECTANCE - .20						
	.80			.50			
	.70	.50	.30	.10	.50	.30	.10
RW							
1	.79	.77	.74	.72	.72	.70	.69
2	.74	.69	.65	.62	.65	.63	.60
3	.69	.63	.58	.54	.59	.56	.53
4	.64	.57	.51	.47	.54	.50	.46
5	.59	.51	.45	.41	.49	.44	.41
6	.55	.46	.41	.37	.44	.40	.36
7	.51	.42	.36	.32	.40	.35	.32
8	.47	.38	.32	.28	.36	.31	.28
9	.43	.34	.28	.25	.33	.28	.24
10	.40	.31	.25	.22	.30	.25	.22

To determine coefficients of utilization for 2 lamp luminaire, multiply figures shown by 1.08, for 3 lamp luminaire, by 1.02

IES Spacing Criteria: End=1.3 Diagonal: 1.3 Cross:1.4

**VISUAL COMFORT PROBABILITY TABLE**

100FC Work Plane Illumination. Work Plane FC=100

ROOM DIMENSIONS	LUMINAIRES 0 DEGREE PLANE				LUMINAIRES 90 DEGREE PLANE				
	MOUNTING HEIGHT								
	W	L	8.5	10	13	16	8.5	10	13
20	20	68	71	74	77	69	71	73	75
20	30	61	65	70	69	64	68	69	68
20	40	58	61	64	66	61	63	65	65
20	60	56	58	60	62	61	62	64	63
30	20	68	72	75	77	69	72	74	75
30	30	60	65	68	69	62	68	68	68
30	40	56	59	63	65	59	62	64	64
30	60	54	56	58	61	58	60	61	62
30	80	53	55	58	58	58	59	60	60
40	20	70	73	76	77	70	73	76	76
40	30	61	65	69	70	62	66	69	69
40	40	56	59	63	65	59	62	64	65
40	60	53	55	58	60	57	59	60	61
40	80	52	54	55	57	57	58	59	59
40	100	52	53	54	55	57	58	58	59
60	30	62	66	69	71	63	66	69	70
60	40	57	60	63	66	59	61	64	65
60	60	54	55	57	60	57	58	59	61
60	80	52	53	54	56	56	57	57	59
60	100	52	52	52	54	56	57	58	58
100	40	60	62	65	68	62	63	65	67
100	60	56	57	58	61	59	60	60	62
100	80	54	55	54	56	57	58	57	59
100	100	53	53	52	54	57	57	56	57