

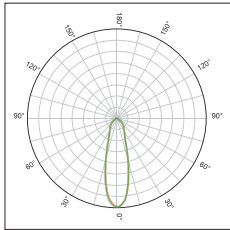
F L E X L E N S

KHATOD

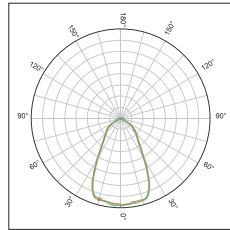
1 0 0 % M A D E I N I T A L Y

KFLEX 16XX

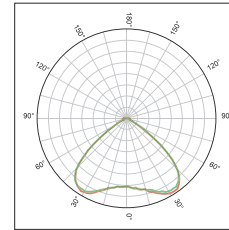
SQUARE MODULE



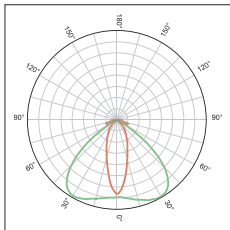
KFLEX1601A
Symmetric beam
30°FWHM



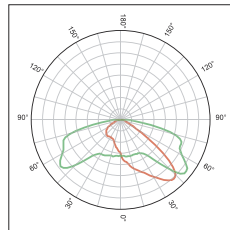
KFLEX1602A
Symmetric beam
60°FWHM



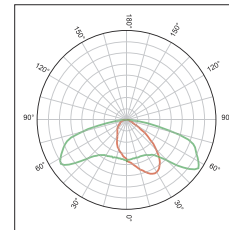
KFLEX1603A
Symmetric beam
90°FWHM



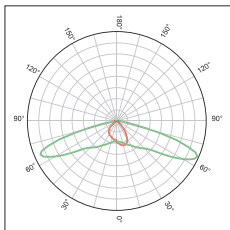
KFLEX1604A
Elliptical beam
30°x100° FWHM



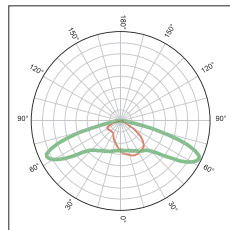
KFLEX1605A
ECE M class
wide street



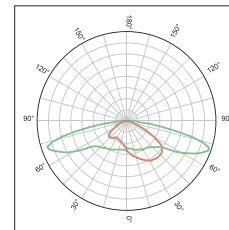
KFLEX1606A
ECE M class
narrow street



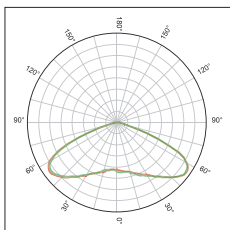
KFLEX1607A
IESNA Type I
Medium



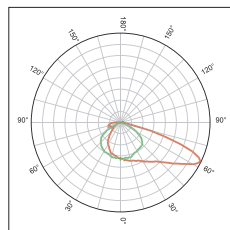
KFLEX1608A
IESNA Type II
Medium



KFLEX1609A
IESNA Type III
Medium



KFLEX1610A
IESNA Type Vs
Short



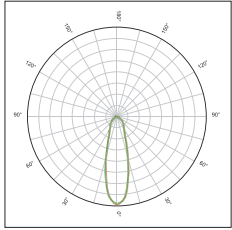
KFLEX1611A
Vertical asymmetric
beam for sports light



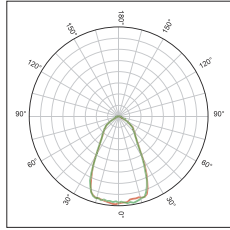
Square module – **49.5mm side** - consisting of **16 optics** in one, with 12.5mm lens pitch.
Made of optical grade PMMA.

KFLEX 32XX

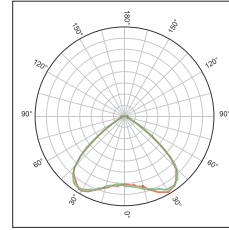
VERTICAL ALIGNED RECTANGULAR MODULE



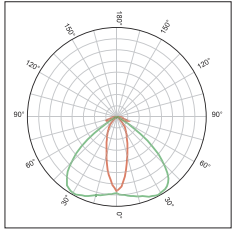
KFLEX3201A
Symmetric beam
30°FWHM



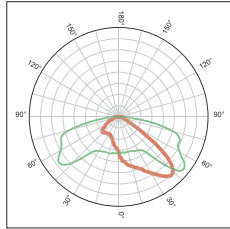
KFLEX3202A
Symmetric beam
60° FWHM



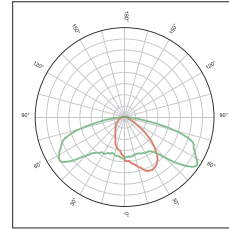
KFLEX3203A
Symmetric beam
90° FWHM



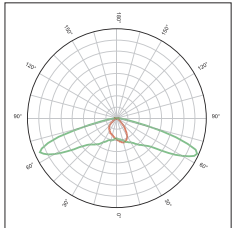
KFLEX3204A
Elliptical beam
30°x100° FWHM



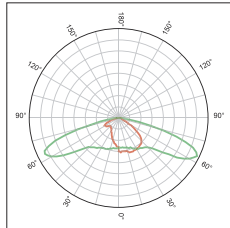
KFLEX3205A
ECE M class
wide street



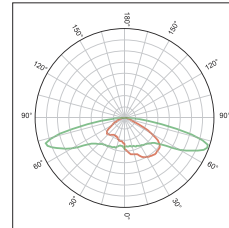
KFLEX3206A
ECE M class
narrow street



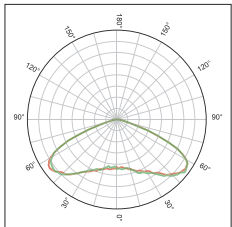
KFLEX3207A
IESNA Type I
Medium



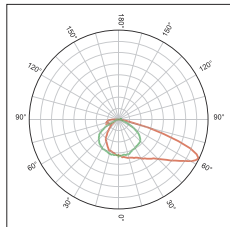
KFLEX3208A
IESNA Type II
Medium



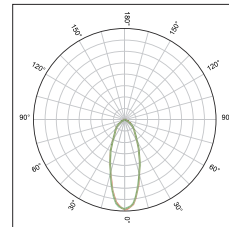
KFLEX3209A
IESNA Type III
Medium



KFLEX3210A
IESNA Type Vs
Short



KFLEX3211A
Vertical asymmetric beam
for sports light



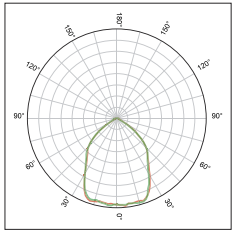
KFLEX3250B
Symmetric beam
40°FWHM



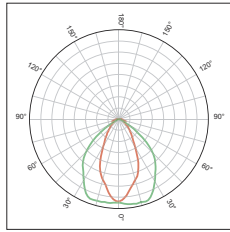
Vertical aligned rectangular module – **49.5mm x 100.3mm** - consisting of **32 optics** in one, with 12.5mm lens.
Made of optical grade PMMA.

KFLEX 32XX

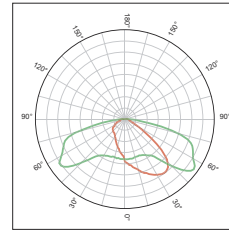
VERTICAL ALIGNED RECTANGULAR MODULE



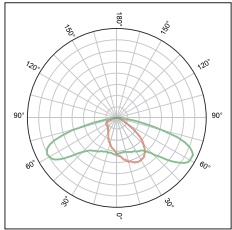
KFLEX3251B
Symmetric beam
90°FWHM



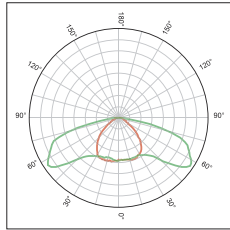
KFLEX3253B
Elliptical beam
55°x95° FWHM



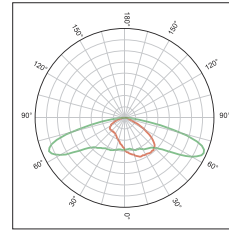
KFLEX3254B
ECE M class



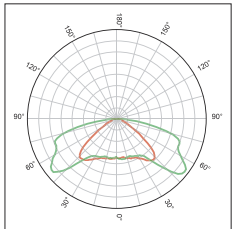
KFLEX3255B
ECE M class



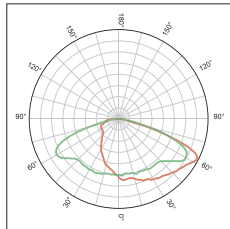
KFLEX3256B
ECE M class
on median installation



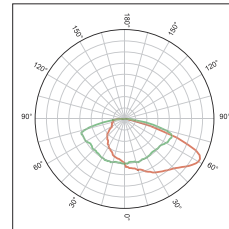
KFLEX3257B
ECE M class



KFLEX3258B
ECE M Class
on median installation



KFLEX3260B
Vertical asymmetric
beam



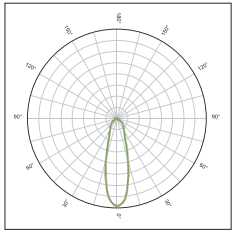
KFLEX3261B
Vertical asymmetric
beam



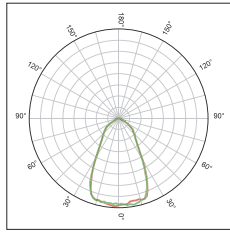
Vertical aligned rectangular module – 49.5mm x 100.3mm - consisting of **32 optics** in one, with 12.5mm lens pitch.
Made of optical grade PMMA.

KFLEX 48XX

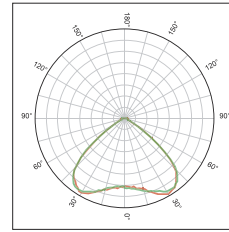
VERTICAL ALIGNED RECTANGULAR MODULE



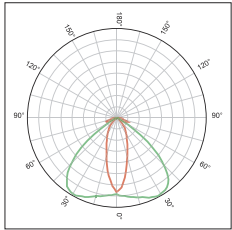
KFLEX4801A
Symmetric beam
30°FWHM



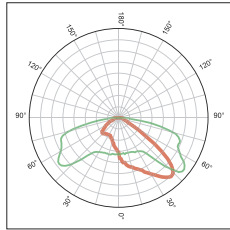
KFLEX4802A
Symmetric beam
60° FWHM



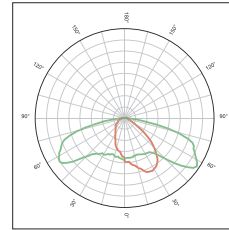
KFLEX4803A
Symmetric beam
90° FWHM



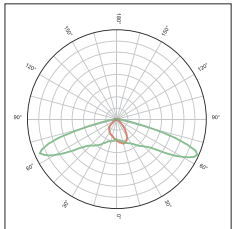
KFLEX4804A
Elliptical beam
30°x100° FWHM



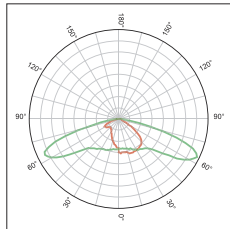
KFLEX4805A
ECE M class
wide street



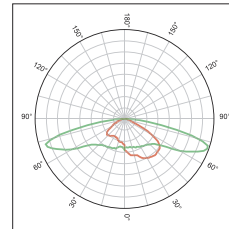
KFLEX4806A
ECE M class
narrow street



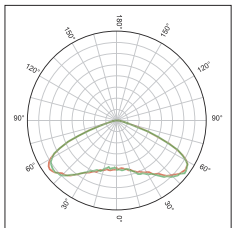
KFLEX4807A
IESNA Type I
Medium



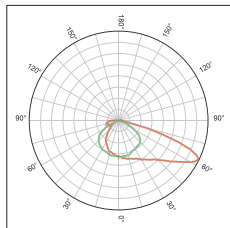
KFLEX4808A
IESNA Type II
Medium



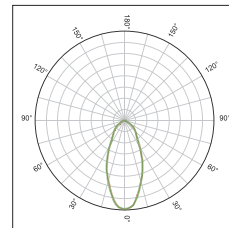
KFLEX4809A
IESNA Type III
Medium



KFLEX4810A
IESNA Type Vs
Short



KFLEX4811A
Vertical asymmetric
beam for sports light



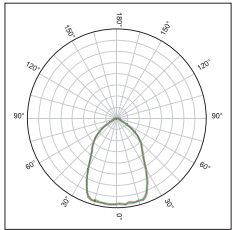
KFLEX4850B
Symmetric beam
45°FWHM



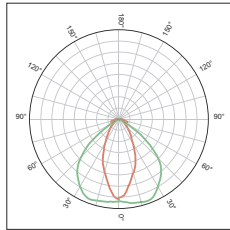
Vertical aligned rectangular module – 49.5mm x 151.1mm - consisting of **48 optics** in one, with 12.5mm lens pitch.
Made of optical grade PMMA.

KFLEX 48XX

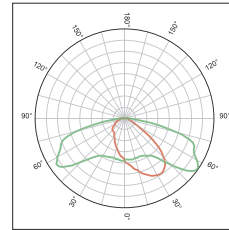
VERTICAL ALIGNED RECTANGULAR MODULE



KFLEX4851B
Symmetric beam
70°FWHM



KFLEX4853B
Elliptical beam
45°x100° FWHM



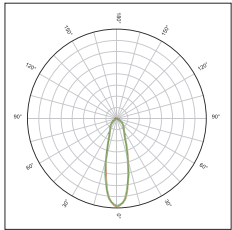
KFLEX4854B
ECE M class



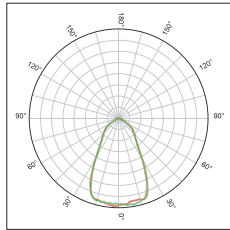
Vertical aligned rectangular module – 49.5mm x 151.1mm - consisting of **48 optics** in one, with 12.5mm lens pitch.
Made of optical grade PMMA.

KFLEX 64XX

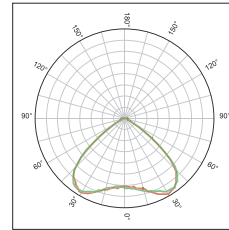
VERTICAL ALIGNED RECTANGULAR MODULE



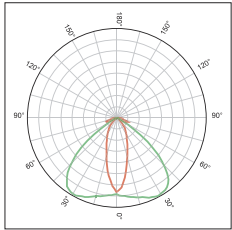
KFLEX6401A
Symmetric beam
30°FWHM



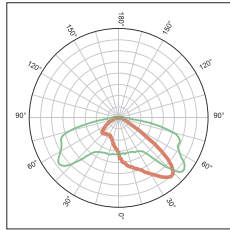
KFLEX6402A
Symmetric beam
60°FWHM



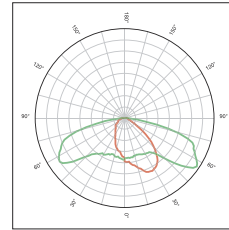
KFLEX6403A
Symmetric beam
90°FWHM



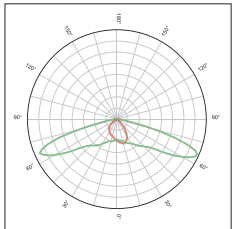
KFLEX6404A
Elliptical beam
30°x100° FWHM



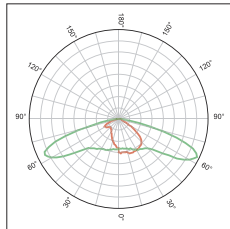
KFLEX6405A
ECE M class
wide street



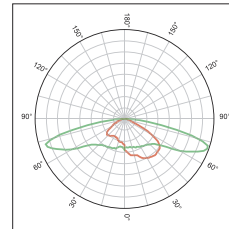
KFLEX6406A
ECE M class
narrow street



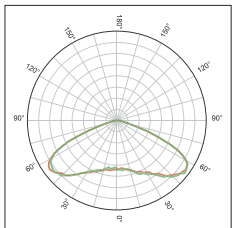
KFLEX6407A
IESNA Type I
Medium



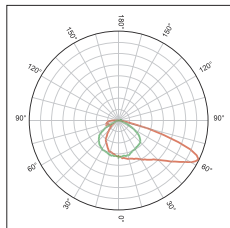
KFLEX6408A
IESNA Type II
Medium



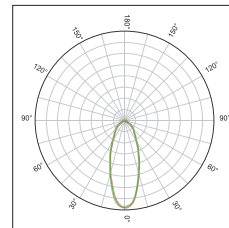
KFLEX6409A
IESNA Type III
Medium



KFLEX6410A
IESNA Type Vs
Short



KFLEX6411A
Vertical asymmetric
beam for sports light



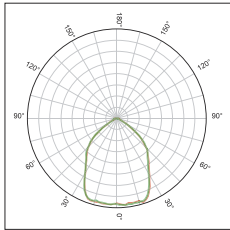
KFLEX6450B
Symmetric beam
40°FWHM



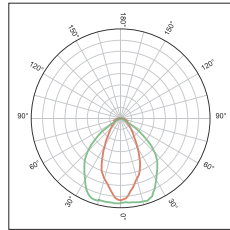
Vertical aligned rectangular module – 49.5mm x 201.9mm - consisting of **64 optics** in one, with 12.5mm lens pitch.
Made of optical grade PMMA.

KFLEX 64XX

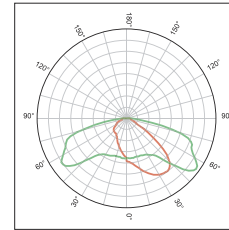
VERTICAL ALIGNED RECTANGULAR MODULE



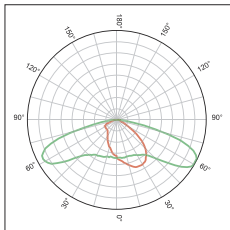
KFLEX6451B
Symmetric beam
90°FWHM



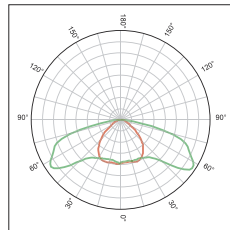
KFLEX6453B
Elliptical beam
55°x95° FWHM



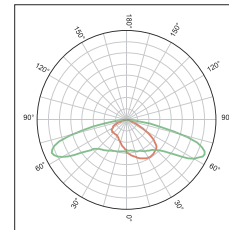
KFLEX6454B
ECE M class



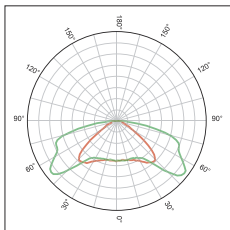
KFLEX6455B
ECE M class



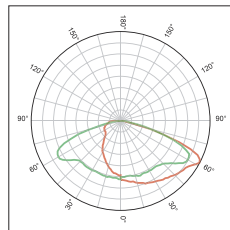
KFLEX6456B
ECE M class
on median installation



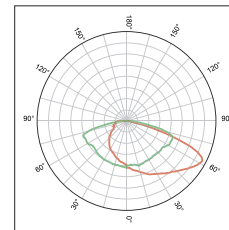
KFLEX6457B
ECE M class



KFLEX6458B
ECE M class
on median installation



KFLEX6460B
Vertical asymmetric
beam



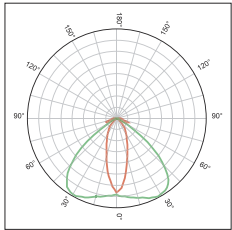
KFLEX6461B
Vertical asymmetric
beam



Vertical aligned rectangular module – 49.5mm x 201.9mm - consisting of **64 optics** in one, with 12.5mm lens pitch.
Made of optical grade PMMA.

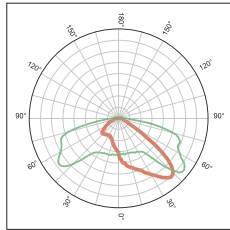
KFLEX 9032XX

HORIZONTAL ALIGNED RECTANGULAR MODULE



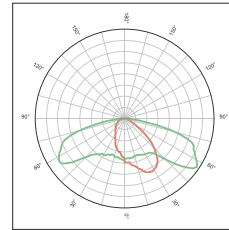
KFLEX903204A

Elliptical beam
30°x100° FWHM



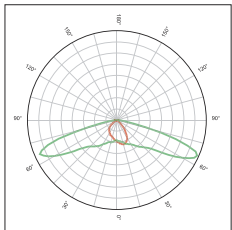
KFLEX903205A

ECE M class
wide street



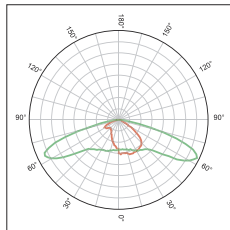
KFLEX903206A

ECE M class
narrow street



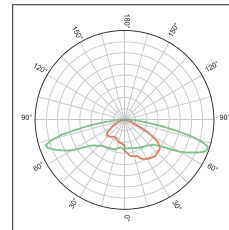
KFLEX903207A

IESNA Type I
Medium



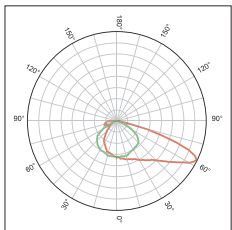
KFLEX903208A

IESNA Type II
Medium



KFLEX903209A

IESNA Type III
Medium



KFLEX903211A

Vertical asymmetric
beam for sports light

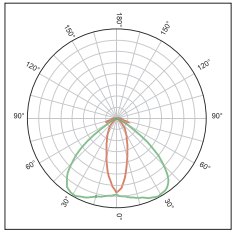


Horizontal aligned rectangular module – 100.3mm x 49.5mm - consisting of **32 optics** in one, with 12.5mm lens pitch.
Made of optical grade PMMA.

www.khatod.com

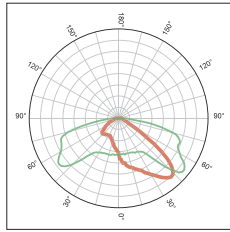
KFLEX 9048XX

HORIZONTAL ALIGNED RECTANGULAR MODULE



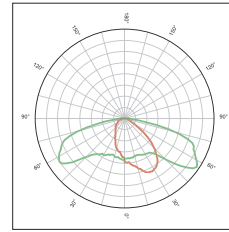
KFLEX904804A

Elliptical beam
30°x100° FWHM



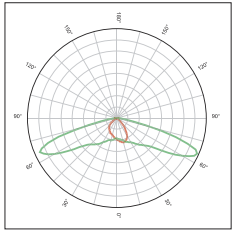
KFLEX904805A

ECE M class
wide street



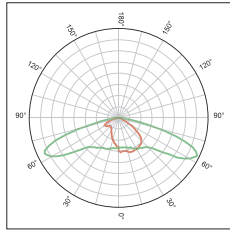
KFLEX904806A

ECE M class
narrow street



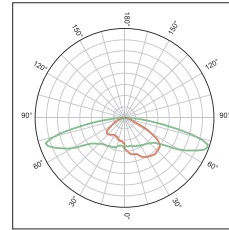
KFLEX904807A

IESNA Type I
Medium



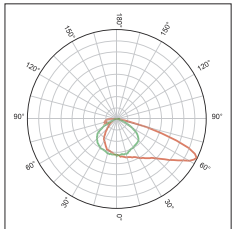
KFLEX904808A

IESNA Type II
Medium



KFLEX904809A

IESNA Type III
Medium



KFLEX904811A

Vertical asymmetric
beam for sports light

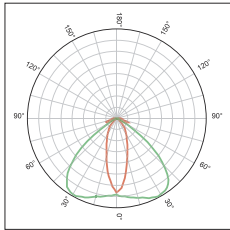


Horizontal aligned rectangular module – 151.1mm x 49.5mm - consisting of **48 optics** in one, with 12.5mm lens pitch.
Made of optical grade PMMA.

www.khatod.com

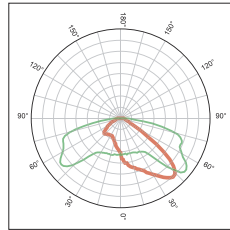
KFLEX 9064XX

HORIZONTAL ALIGNED RECTANGULAR MODULE



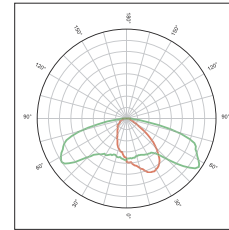
KFLEX906404A

Elliptical beam
30°x100° FWHM



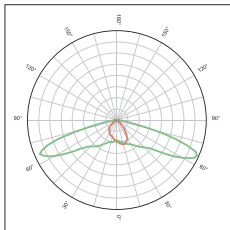
KFLEX906405A

ECE M class
wide street



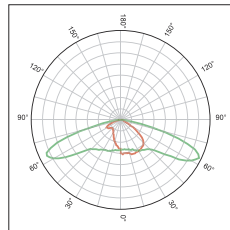
KFLEX906406A

ECE M class
narrow street



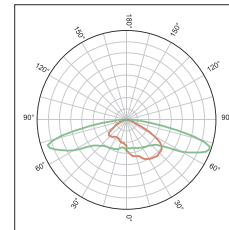
KFLEX906407A

IESNA Type I
Medium



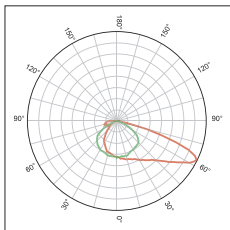
KFLEX906408A

IESNA Type II
Medium



KFLEX906409A

IESNA Type III
Medium



KFLEX906411A

Vertical asymmetric
beam for sports light



Horizontal aligned rectangular module – 201.9mm x 49.5mm - consisting of **64 optics** in one, with 12.5mm lens pitch.
Made of optical grade PMMA.



INDUSTRIAL

| | PRODUCT NUMBER | # OF LEDS (each lens) | BEAM | MOUNTING HEIGHT AND INST. LAYOUT (m) | | | UNIFORMITY | |
|-------------------------|-------------------|--------------------------|---------------|--------------------------------------|-----|-----|------------|-----------|
| | | | | H | X | Y | UO | EMIN/EMAX |
| Open space warehouse | KFLEX6401A | 64 | Symm 30° | 8 | 2,5 | 2,5 | 0,4 | 0,3 |
| | KFLEX6402A | 64 | Symm 60° | 6 | 7 | 7 | 0,3 | 0,2 |
| | KFLEX6403A | 64 | Symm 100° | 8 | 10 | 10 | 0,5 | 0,4 |
| | KFLEX6450A | 64 | Symm 40° | 8 | 3,5 | 3,5 | 0,4 | 0,3 |
| | KFLEX6451A | 64 | Symm 75° | 6 | 5 | 5 | 0,3 | 0,2 |
| Warehouse with shelves | KFLEX6404A | 64 | Ell. 30°x100° | 6 | 5 | 3 | 0,4 | 0,3 |
| | KFLEX6453A | 64 | Ell. 40°x90° | 6 | 5 | 4 | 0,4 | 0,3 |



SPORTS

| | SPORTS INSTALLATION | PRODUCT NUMBER | # OF LEDS (each lens) | # OF LENSES per fixture | DESCRIPTION | EAVE | UO |
|---------|---|-------------------|--------------------------|----------------------------|---------------------------|----------|------|
| INDOOR | BASKETBALL AND VOLLEY FIELD (Standards 2; Eav>500lx Uo>0.7) | KFLEX6410A | 64 | 8 | Ceiling mounted 7x4 lamps | >500 lux | 0,8 |
| | TENNIS COURT (Standards 2; Eav>500lx Uo>0.7) | KFLEX6410A | 64 | 8 | Ceiling mounted 6x5 lamps | >500 lux | 0,75 |
| | FOOTBALL FIELD 5 PLAYERS (Standards 2; Eav>500lx Uo>0.7) | KFLEX6410A | 64 | 8 | Ceiling mounted 8x4 lamps | >500 lux | 0,7 |
| | SWIMMING POOL (Standards 2; Eav>300lx Uo>0.7) | KFLEX6403A | 64 | 8 | Ceiling mounted 7x5 lamps | >300 lux | 0,7 |
| OUTDOOR | FOOTBALL FIELD (Standards 1; Eav>75lx Uo>0.5) | KFLEX6461B | 64 | 8 | 6 poles 15m high | >75 lux | 0,5 |
| | FOOTBALL FIELD 5 PLAYERS (Standards 1; Eav>100lx Uo>0.5) | KFLEX6460B | 64 | 8 | 6 poles 8m high | >200 lux | 0,8 |
| | TENNIS COURT (Standards 1; Eav>200lx Uo>0.5) | KFLEX6411A | 64 | 8 | 4 poles 8m high | >200 lux | 0,6 |



STREET LIGHT EU

| INSTALLATION TYPE | PRODUCT NUMBER | # OF LEDS (each lens) | # OF LENSES per fixture | ILLUMINANCE CLASS | ROAD WIDTH (m) | POLE HEIGHT (m) | RATIO | U0 | UI | TI | EIR |
|--------------------------|----------------|-----------------------|-------------------------|-------------------|----------------|-----------------|-------|------|------|----|-----|
| Single row bottom or top | KFLEX4805B | 48 | 3 | M5 class | 6 | 6 | 5 | 0,5 | 0,4 | 14 | 0,5 |
| | KFLEX4806B | 48 | 3 | M5 class | 5 | 6 | 5 | 0,5 | 0,5 | 13 | 0,6 |
| | KFLEX4854B | 48 | 3 | M5 class | 6 | 7 | 4 | 0,5 | 0,6 | 11 | 0,6 |
| | KFLEX4808A | 48 | 3 | M5 class | 7 | 7 | 4 | 0,35 | 0,6 | 13 | 0,6 |
| Single row bottom or top | KFLEX6405B | 64 | 4 | M3, M4 class | 7 | 6 | 3,5 | 0,5 | 0,6 | 14 | 0,5 |
| | KFLEX6406B | 64 | 4 | M3, M4 class | 6 | 7 | 4 | 0,5 | 0,65 | 11 | 0,6 |
| | KFLEX6454B | 64 | 4 | M4 class | 8 | 7 | 4 | 0,4 | 0,6 | 14 | 0,5 |
| | KFLEX6455B | 64 | 4 | M3, M4 class | 7 | 8 | 3,5 | 0,5 | 0,7 | 14 | 0,6 |
| | KFLEX6457B | 64 | 4 | M4 class | 6 | 6 | 4 | 0,4 | 0,6 | 12 | 0,5 |
| On median | KFLEX6456B | 64 | 4 | M3, M4 class | 6 + 0.5 + 6 | 8 | 4 | 0,4 | 0,6 | 13 | 0,4 |
| | KFLEX6458B | 64 | 4 | M3, M4 class | 7 + 1 + 7 | 8 | 4 | 0,5 | 0,6 | 15 | 0,5 |

STREET LIGHT IESNA

| PRODUCT NUMBER | # OF LEDS (each lens) | IESNA CLASSIFICATION | LONGITUDINAL CLASSIFICATION | CUTOFF CLASSIFICATION |
|----------------|--------------------------|-------------------------|--------------------------------|--------------------------|
| KFLEX3207A | 32 | Type I | Medium | Cutoff |
| KFLEX3208A | 32 | Type II | Medium | Semi Cutoff |
| KFLEX3209A | 32 | Type III | Medium | Semi Cutoff |
| KFLEX3210A | 32 | Type VS | Short | Cutoff |
| KFLEX4807A | 48 | Type I | Medium | Cutoff |
| KFLEX4808A | 48 | Type II | Medium | Semi Cutoff |
| KFLEX4809A | 48 | Type III | Medium | Semi Cutoff |
| KFLEX4810A | 48 | Type VS | Short | Cutoff |
| KFLEX6407A | 64 | Type I | Medium | Cutoff |
| KFLEX6408A | 64 | Type II | Medium | Semi Cutoff |
| KFLEX6409A | 64 | Type III | Medium | Semi Cutoff |
| KFLEX6410A | 64 | Type VS | Short | Cutoff |



ADVANCED TECHNOLOGY UNIQUE PROJECTS READY-TO-USE

Khatod optics enable to realize your most demanding applications in LED Lighting.

Pioneer of SILICONE LENSES, unique to OPTICAL SYSTEMS, forerunner of new-concept REFLECTORS, skilled developer of CUSTOM OPTICS. To its customers, Khatod makes available its newest industrial area – 30,000sqm of advanced technology - free of charge technical support, fast deliveries from HQ, corporate sales offices around the world and global distributors of the industry.

Standard products: over 7900 models from stock – optics, optical systems and reflectors – for most popular LEDs, for any kind of applications in LED Lighting. Made from top quality materials – optical grade PMMA for HT, PC HT, ULTRA-CLEAR SILICONE (LSR) – by using exclusive manufacturing processes and superior finishing.

Custom Optics: Khatod started as manufacturer of custom optics when LED Lighting was in its early days. Since then, our lenses have been developing alongside the newest LEDs. Who can offer better expertise than Khatod? The answer is easy: nobody. Unique on the international scene, Khatod develops the entire product process 100% in-house, Milano-Italy. No outsourcing. For your new projects, do not hesitate to contact Khatod. You will find not only a manufacturer of optics, but a real partner in your project.

Since 1985, from Project to Object. 100% Made in Khatod, Italy.



KHATOD

1 0 0 % M A D E I N I T A L Y

We Manufacture Solutions

HEAD QUARTER

Via Alessandrina 25, Cusano Milanino, (Milan) Italy - Phone +39 02 66013695 - Fax +39 02 66013500 - khatod@khatod.com - www.khatod.com

USA

khatodusa@khatod.com

INDIA

khatodindia@khatod.com

BRASIL

khatodbrasil@khatod.com

RUSSIA

khatodrussia@khatod.com

NORTH EUROPE

khatodnordic@khatod.com

JAPAN

khatodjapan@khatod.com