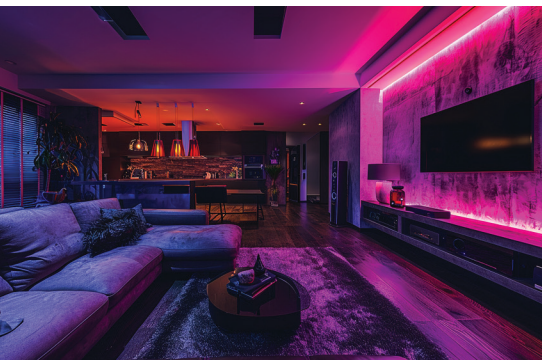




Bring Your Lighting To The Next Level With Dialight Optics

Dialight offers a wide variety of industry-leading optics to take your LED lighting performance to new heights. Our total internal reflection (TIR) optics, lenses, and metalized reflectors are expertly engineered for maximum efficiency, accuracy, and light control.

Unmatched Optical Precision

Our TIR optics leverage the physics of internal reflection to direct light with minimal loss. Available in a range of beam angles from narrow spot to wide flood, our optics shape and distribute light precisely where you need it.

Key optics series:

- TIR Optics – 21.3mm and 35mm round TIR optics in various beam angles
- Lens Optics – Square and rectangular optics for unique beam patterns
- Metalized Reflectors – Open top reflector cups with precision vacuum metallization

Designed for Easy LED Pairing

We've optimized our optics to pair perfectly with high-power LEDs commonly used for lighting projects. Our optics shape and direct light from LEDs like:

- Cree XPE, XPE2, XP-G2, XP-G3, XPL-DH
- Nichia NVSL219C
- Samsung LH351B

Check our spec sheets for full-width half-max (FWHM) measurements for each optic and LED combination.

Superior Optical Materials

Our optics utilize premium optical grade materials like polycarbonate and PMMA for maximum light transmission and durability. Materials are UL rated for safety and reliability.

The Complete Package

Our optics come ready to install with tape for easy mounting. Or choose our optics pre-installed in holders for a complete assembly.

Enhance Your Lighting Today

Elevate your lighting with precision optics from Dialight. Contact us to discuss how our optics can help you achieve your lighting goals.



OPT SERIES

21.3mm TIR Optic

10°, 25°, 40°, 60°, 80° and 10 x 45°

MECHANICAL / SPECIFICATIONS

NOMINAL OUTPUT ANGLE*:

OPT-0010-014F 10 degrees

OPT-0025-014F 25 degrees

OPT-0040-014F 40 degrees

OPT-0060-014F 60 degrees

OPT-0080-014F 80 degrees

OPT-1045-014F 10 x 45 degrees

LENS SHAPE:

Round

LENS DIMENSIONS - OPTICS:

21.3 mm dia. x 12.45mm high

LIGHT TRANSMISSION:

400nm to 900nm >90%

LENS MATERIAL:

PMMA 8N

UL FLAMMABILITY:

HB

UV RATING:

AMECA Listed

OPERATING TEMPERATURE:

-40°C to +70°C (-40°F to +158°F)

**output can vary based on specific LED used with the optic*

CERTIFICATIONS & RATINGS

RoHS

FEATURES & BENEFITS

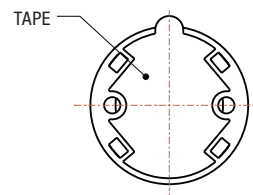
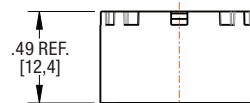
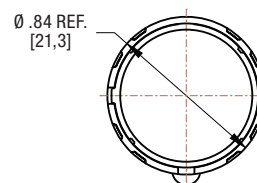
- High transmissivity
- UL rated optic material
- Optic pre-installed in housing with tape for mounting

APPLICATION

Dialight OPT Series of TIR optics are designed for optical efficiency with a wide variety of today's common high power LEDs.

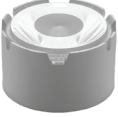
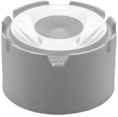
- Down light
- Wall wash
- Illumination
- Spot light
- Architectural
- ...and many more

DIMENSIONS inches [mm]



ORDERING INFORMATION

OPTIC FWHM FOR SPECIFIC LEDS

	Part Number	Description	LED	FWHM*
	OPT-0010-014F	10 degree optic in holder with tape	Cree XPE	9°
			Cree XPE2	9°
			Cree XP-G3	13°
			Nichia NVSL219C	17°
	OPT-0025-014F	25 degree optic in holder with tape	Cree XPE	21°
			Cree XPE2	20°
			Cree XP-G3	24°
			Nichia NVSL219C	24°
	OPT-0040-014F	40 degree optic in holder with tape	Cree XPE	41°
			Cree XPE2	40°
			Cree XP-G3	43°
			Nichia NVSL219C	40°
	OPT-0060-014F	60 degree optic in holder with tape	Cree XPE	66°
			Cree XPE2	60°
			Cree XP-G3	65°
			Nichia NVSL219C	72°
	OPT-0080-014F	80 degree optic in holder with tape	Cree XPE	82°
			Cree XPE2	80°
			Cree XP-G3	83°
			Nichia NVSL219C	81°
	OPT-1045-014F	10 x 45 degree optic in holder with tape	Cree XPE	11° x 43°
			Cree XPE2	11° x 44°
			Cree XP-G3	19° x 40°
			Nichia NVSL219C	8°x 42°

*FWHM equals full width of the optic output to half the maximum (peak) output

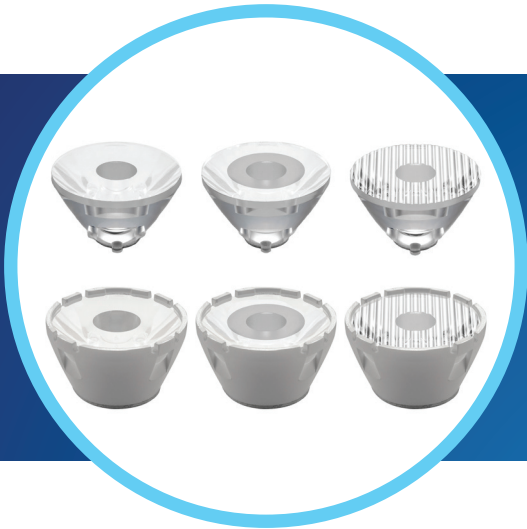
PRECAUTIONS

- Handle and Install optics wearing gloves. Skin oils may damage or alter the optical performance of the product
- If needed, clean product with mild soap, water and a soft cloth
- Avoid the use of commercial cleaning solvents, including alcohol on the products.



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OPT SERIES 35mm TIR Optic

3°, 5°, 5 x 20°

MECHANICAL / SPECIFICATIONS

OPTIC WITH TAPE ONLY:

Optic Diameter 35mm

Optic Height 20.1mm

OPTIC WITH HOLDER AND TAPE:

Optic Diameter 38.2 mm

Optic Height 22.2 mm

OPERATING TEMPERATURE:

-40°C to +70°C

LIGHT TRANSMISSION:

400nm to 900nm >90%

LENS MATERIAL:

PMMA 8N

FLAMMABILITY:

UL 94HB

UV RATING:

AMECA Listed

NOMINAL OUTPUT ANGLE*:

OPT0003002F, OPT0003004F 3 degrees

OPT0005002F, OPT0005004F 5 degrees

OPT0520002F, OPT0520004F 5 x 20 degrees

**output can vary based on specific LED used with the optic*

CERTIFICATIONS & RATINGS

RoHS

FEATURES & BENEFITS

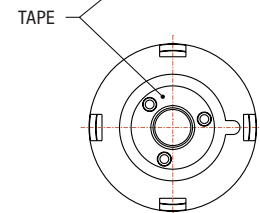
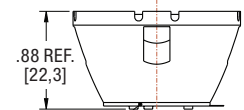
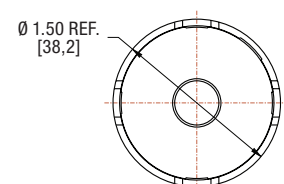
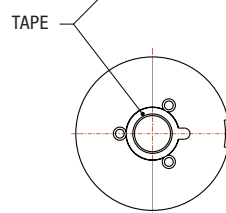
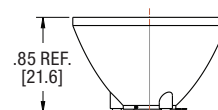
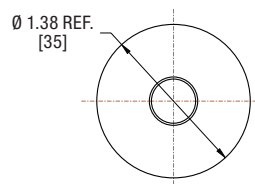
- High transmissivity
- UL rated optic material
- Optic only with tape or Optic pre-installed in housing with tape for mounting

APPLICATION

Dialight OPT Series of TIR optics are designed for optical efficiency with a wide variety of today's common high power LEDs.

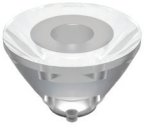
- Down light
- Wall wash
- Illumination
- Spot light
- Architectural
- ...and many more

DIMENSIONS inches [mm]



ORDERING INFORMATION

OPTIC FWHM FOR SPECIFIC LEDS

	Part Number	Description	LED	FWHM*
	OPT-0003-002F	3 degree optic with tape	Cree XPE	4°
			Cree XPE2	4°
			Cree XML2	8°
	OPT-0005-002F	5 degree optic with tape	Cree XPE	4°
			Cree XPE2	4°
			Cree XML2	8°
	OPT-0520-002F	5 x 20 degree optic with tape	Cree XPE	5° x 18°
			Cree XPE2	5° x 18°
			Cree XML2	5° x 19°
	OPT-0003-004F	3 degree optic in holder with tape	Cree XPE	4°
			Samsung LH351B	6°
	OPT-0005-004F	5 degree optic in holder with tape	Cree XPE	5°
			Samsung LH351B	7°
	OPT-0520-004F	5 x 20 degree optic in holder with tape	Cree XPE	4° x 19°
			Samsung LH351B	8° x 20°

*FWHM equals full width of the optic output to half the maximum (peak) output

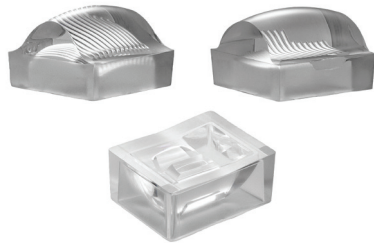
PRECAUTIONS

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- If needed, clean product with mild soap, water and a soft cloth
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OPT SERIES

Lens Optic

10 x 90°, 25 x 90° and 35 x 85°

MECHANICAL / SPECIFICATIONS

NOMINAL OUTPUT ANGLE*:

OPT-1090-171F 10 x 90 degrees

OPT-2590-171F 25 x 90 degrees

OPT-3585-281F 35 x 85 degrees

LENS SHAPE:

OPT-1090-171F Square

OPT-2590-171F Square

OPT-3585-281F Rectangular

LENS DIMENSIONS - OPTICS:

OPT-1090-171F 20.5mm Sq x 13.9mm high

OPT-2590-171F 20.5mm Sq x 13.9mm high

OPT-3585-281F 24mm x 19mm x 10.5 mm high

LIGHT TRANSMISSION:

400nm to 900nm >90%

LENS MATERIAL:

OPT-1090-171F PC LEV1700 KL

OPT-2590-171F PMMA 8N

OPT-3585-281F PC LEV1700 KL

UL FLAMMABILITY:

OPT-1090-171F V-2

OPT-2590-171F HB

OPT-3585-281F V-2

UV RATING:

Opt 1090 / 3585 UL F1

OPT 2590 AMECA

OPERATING TEMPERATURE:

OPT-1090-171F -40°C to +110°C (-40°F to +230°F)

OPT-2590-171F -40°C to +70°C (-40°F to +158°F)

OPT-3585-281F -40°C to +110°C (-40°F to +230°F)

**output can vary based on specific LED used with the optic*

CERTIFICATIONS & RATINGS

RoHS

FEATURES & BENEFITS

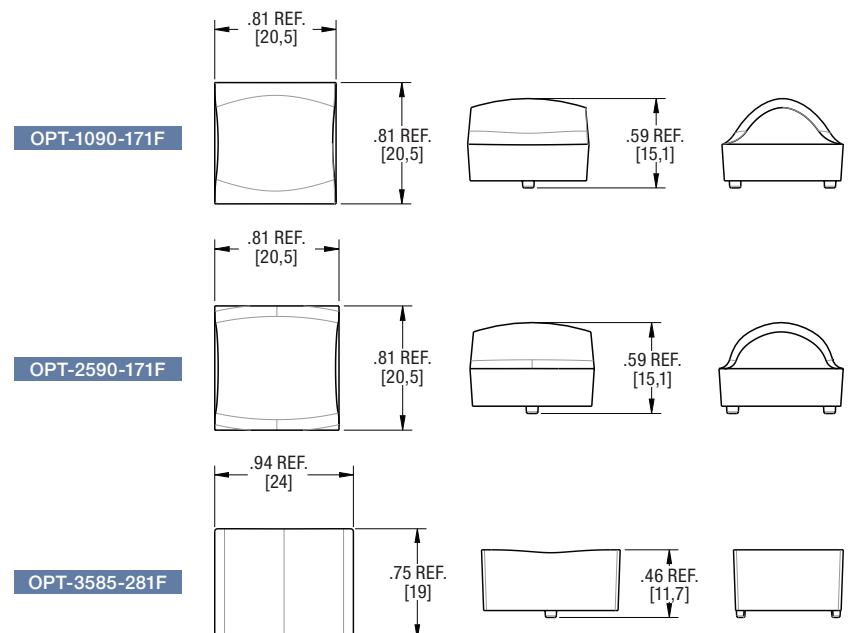
- High transmissivity
- UL rated optic material
- Lens includes locating pins for consistent alignment

APPLICATION

Dialight OPT Series of TIR optics are designed for optical efficiency with a wide variety of today's common high power LEDs.

- Down light
- Wall wash
- Illumination
- Spot light
- Architectural
- ...and many more

DIMENSIONS inches [mm]



ORDERING INFORMATION

OPTIC FWHM FOR SPECIFIC LEDS

	Part Number	Description	LED	FWHM*
	OPT-1090-171F	10 x 90 degree optic only	Cree XPE2	30° x 98°
			Cree XP-G2	29°x 97°
			Cree XPL-DH	36° x 99°
	OPT-2590-171F	25 x 90 degree optic only	Cree XPE2	32° x 91°
			Cree XP-G2	34°x 74°
			Cree XPL-DH	38° x 94°
	OPT-3585-281F	35 x 85 degree optic only	Cree XPE2	31° x 78 °
			Cree XP-G2	32°x 75°
			Cree XPL-DH	42°x 97°

*FWHM equals full width of the optic output to half the maximum (peak) output

PRECAUTIONS

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OPTICS SERIES 10mm Reflector

MECHANICAL / SPECIFICATIONS

MODEL:
7° "Spot"

TOP DIAMETER:
11.5mm (0.453")

BASE DIAMETER:
11.2mm (0.433")

HEIGHT:
10.0mm (0.249")

MODEL:
13° "Wide"

TOP DIAMETER:
9.7mm (0.433")

BASE DIAMETER:
11.2mm (0.433")

HEIGHT:
3.8mm (0.142")

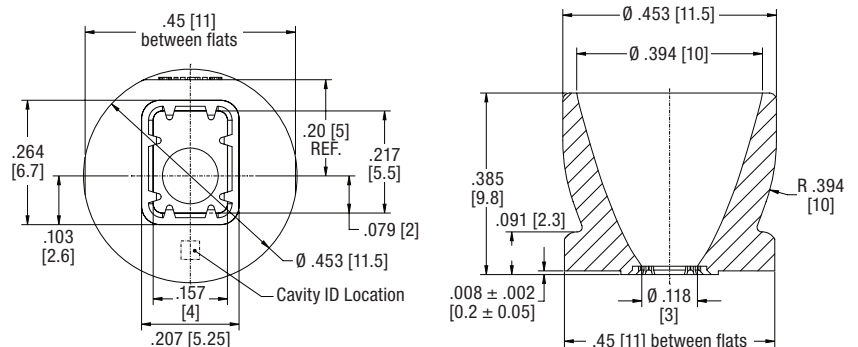
FEATURES & BENEFITS

- Only 11.5mm (0.453") maximum diameter
- Ideal for tightly spaced LED arrays
- Adhesive backing for easy installation. Adhesive rated from -40°C to +120°C (-40°F to +248°F)
- Automatic alignment feature
- Spot and wide versions available
- Universal version suites Cree XPC, XPE, XPG and standard Rebel LEDs

APPLICATION

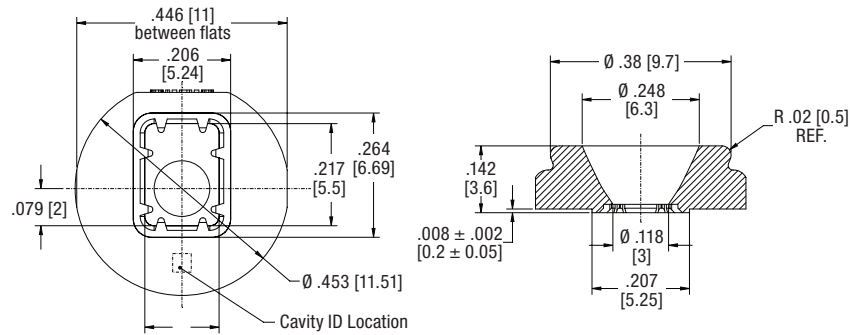
- Spot lighting
- Flood lighting
- Accent lighting
- RGB color mixing

DIMENSIONS inches [mm]



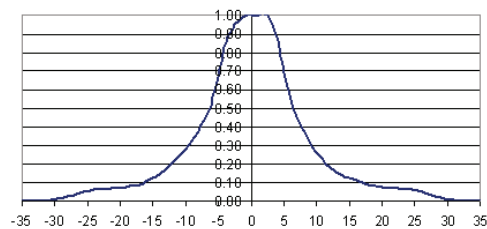
7° "Spot" Model

DIMENSIONS inches [mm]

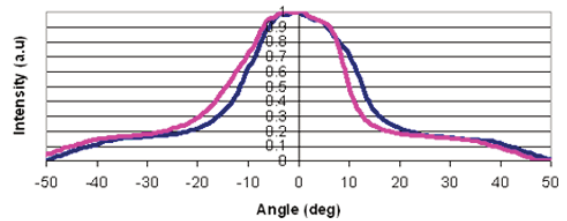


13° "Wide" Model

PHOTOMETRIC DATA



7° "Spot" Model



13° "Wide" Model

ORDERING INFORMATION

Part Number	Description	Degree*
OPC-11-COL	7 degree "spot" model (Luxeon only)	7°
OPC-12-COL	13 degree "wide" model (Luxeon only)	13°

VIBRATION TESTING

Test	Standard/Test Method
Vibration	Class A alternating 60°C to 25°C Twenty 12 minute cycles 5 200 Hz @ 4.2 g 3 axes
Shock	10g 11 mS Terminal Peak Sawtooth 3 axes



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