

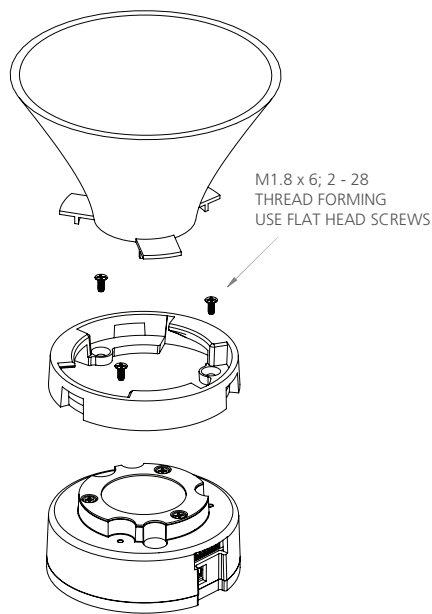
## 6 SECONDARY OPTICS

### 6.1 Attaching Compatible CTM One Reflectors

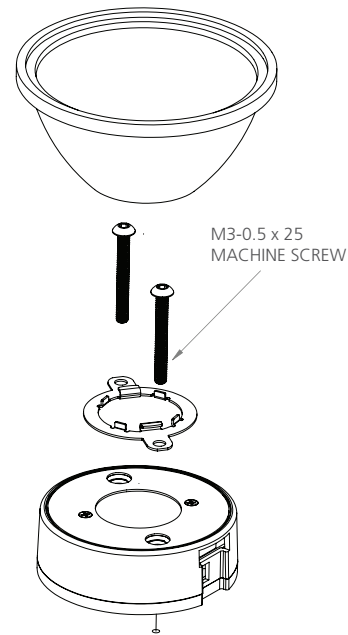
The CTM 119NR accepts twist-to-lock reflectors with an attachment collar. The CTM 109, CTM 112 and CTM 119 have provisions for TE Type-2 clip reflectors. The fastener specifications are shown in the following table while mounting hole locations are shown in the figures below.

#### CTM One Secondary Optics Fastener Specifications

CTM One Reflector	Fastener specifications	Screw length	Notes
Twist Lock w/ Collar (CTM 119NR)	2 - 28; M1.8 x 6	6 mm (1/4")	Thread forming; use flat head screws
TE Type 2 Clip	M3-0.5 x 25	25 mm (1")	Machine screws; attach to heat sink (not directly to module)



CTM 119NR Twist-Lock Style Reflectors with Attachment Collars



CTM 109 / CTM 112 / CTM 119 TE Type 2 Clip Reflectors (by Khatod)

## 6 SECONDARY OPTICS

### 6.2 Compatible Reflectors for CTM 109 and CTM 112

#### Compatible Reflectors for CTM 109

Manufacturer	M. Part Number	beam angle (deg)	outer dim (mm)	height (mm)	optical finish	optical finish 2	attach method
khatod	1682 ST	20	65	35	diffuse	none	TE Type 2 clip
khatod	1683ST	24	65	35	diffuse	none	TE Type 2 clip
khatod	1685 ST	32	65	35	diffuse	none	TE Type 2 clip
khatod	1687 ST	31	65	35	diffuse	none	TE Type 2 clip
nata	4-1406-E	20.3	110	66.2	specular	super faceted	none
nata	3990E	23.2	75	43	specular	super faceted	none
nata	3991E	35.7	75	43	specular	super faceted	none
nata	3993E	40	85	50.5	specular	super faceted	none

#### Compatible Reflectors for CTM 112

Manufacturer	M. Part Number	beam angle (deg)	outer dim (mm)	height (mm)	optical finish	optical finish 2	attach method
Diffractive Optics	P11218 (LES12)	16	72.6	33	specular	faceted	none
khatod	1682 ST	20	65	35	diffuse	none	TE Type 2 clip
khatod	1683 ST	24	65	35	diffuse	none	TE Type 2 clip
khatod	1684 ST	28	65	35	diffuse	none	TE Type 2 clip
khatod	1685 ST	32	65	35	diffuse	none	TE Type 2 clip
khatod	1687 ST	31	65	35	diffuse	none	TE Type 2 clip
khatod	1688 ST	38	65	35	diffuse	none	TE Type 2 clip
khatod	1690 ST	50	65	35	diffuse	none	TE Type 2 clip
khatod	1691 ST	56	65	35	diffuse	none	TE Type 2 clip
nata	4-1406-E	20.3	110	66.2	specular	super faceted	none
nata	3990E	23.2	75	43	specular	super faceted	none
nata	3991E	35.7	75	43	specular	super faceted	none
nata	3992E	24.8	85	50.5	specular	super faceted	none
nata	3993E	40	85	50.5	specular	super faceted	none
Top Lighting	XSA-15	60	70	43	specular	none	none

NOTE: Reflectors have been recommended based on independent optical tests conducted by Lumenetix, and should be used as guidelines. Final reflector evaluation should be made by fixture manufacturers with all optics in place.

## 6 SECONDARY OPTICS

### 6.3 Compatible Reflectors for CTM 119 and CTM 119NR

Compatible Reflectors for CTM 119 and CTM 119NR

Manufacturer	M. Part Number	beam angle (deg)	outer dim (mm)	height (mm)	optical finish	optical finish 2	attach method
Widegerm	3207T-XC	38	82	46	diffuse	none	twist lock*
Widegerm	1009T-XC	38	49	30.4	specular	faceted	twist lock*
Widegerm	1010T-XC	55	50	30.4	specular	none	twist lock*
Edison Price	770237-D20	20	70	45	specular	faceted,sq	twist lock*
Edison Price	770237-D40	40	70	45	specular	faceted, sq	twist lock*
Diffractive Optics	P7076 (XSA-17)	20	94.4	83	specular	faceted	twist lock*
Diffractive Optics	P7899 (XSA-22)	40	49.3	28.6	specular	faceted	twist lock*
Diffractive Optics	P6764 (XSA-21)	56	50	29	specular	none	twist lock*
Diffractive Optics	P6680	40	70	42	specular	none	twist lock*
Diffractive Optics	P6645	65	70	42	specular	none	twist lock*
khatod	1682 CR	11	65	35	specular	none	TE Type 2 clip
khatod	1682 ST	20	65	35	diffuse	none	TE Type 2 clip
khatod	1683 ST	24	65	35	diffuse	none	TE Type 2 clip
khatod	1685 ST	32	65	35	diffuse	none	TE Type 2 clip
khatod	1687 ST	31	65	35	diffuse	none	TE Type 2 clip
khatod	1688 ST	38	65	35	diffuse	none	TE Type 2 clip
khatod	1689 ST	42	65	35	diffuse	none	TE Type 2 clip
nata	4-1406-E	20.3	110	66.2	specular	super faceted	none
nata	3991E	35.7	75	43	specular	super faceted	none
nata	3993E	40	85	50.5	specular	super faceted	none
Top Lighting	XSA-13	22	70	43	specular	none	none
Top Lighting	XSA-14	46	70	43	specular	none	none
Top Lighting	XSA-15	60	70	43	specular	none	none

NOTE: Reflectors have been recommended based on independent optical tests conducted by Lumenetix, and should be used as guidelines. Final reflector evaluation should be made by fixture manufacturers with all optics in place.