

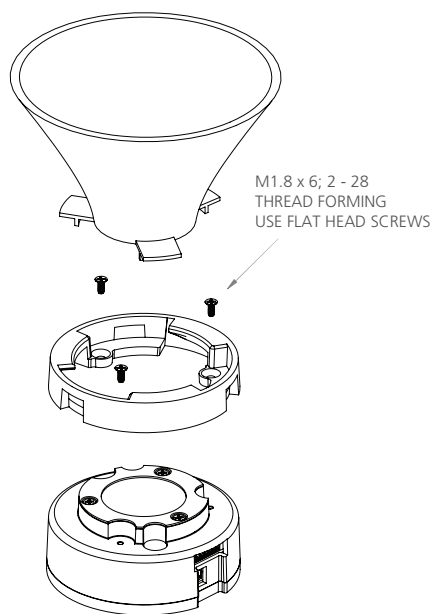
## 6 SECONDARY OPTICS

### 6.1 Attaching Compatible DDM One Reflectors

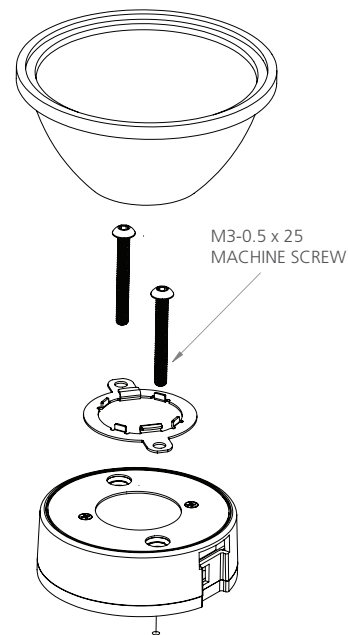
The DDM 119NR accepts twist-to-lock reflectors with an attachment collar. The DDM 109, CTM 112 and CTM 119 have provisions for TE Type-2 clip reflectors. The fastener specifications are shown in the following table while mounting hole locations are shown in the figures below.

#### DDM One Secondary Optics Fastener Specifications

DDM 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)



DDM 119NR Twist-Lock Style Reflectors  
with Attachment Collars



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

## 6 SECONDARY OPTICS

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

#### Compatible Reflectors for DDM 109

Manufacturer	M. Part Number	beam angle (deg)	outer dim (mm)	height (mm)	optical finish	optical finish 2	attach method
Widgerm	1128LG (LES11)	26	50	24.5	diffuse	none	none
Diffractive Optics	P11218 (LES12)	16	72.6	33	specular	faceted	none
khatod	1682 CR	11	65	35	specular	none	TE Type 2 clip
khatod	1687 CR	27	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	3993E	40	85	50.5	specular	super faceted	none

#### Compatible Reflectors for DDM 112

Manufacturer	M. Part Number	beam angle (deg)	outer dim (mm)	height (mm)	optical finish	optical finish 2	attach method
Widgerm	1121LG (LES11)		50	24.5	diffuse	faceted	none
Widgerm	1128LG (LES11)	26	50	24.5	diffuse	none	none
Widgerm	1028LG (LES11)	18	50	24.5	specular	none	none
Diffractive Optics	P11218 (LES12)	16	72.6	33	specular	faceted	none
khatod	1682 ST	20	65	35	diffuse	none	TE Type 2 clip
khatod	1685 ST	32	65	35	diffuse	none	TE Type 2 clip
khatod	1687 CR	27	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
khatod	1691 ST	56	65	35	diffuse	none	TE Type 2 clip
nata	3991E	35.7	75	43	specular	super faceted	none
nata	3993E	40	85	50.5	specular	super faceted	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 DDM 119 and DDM 119NR

Compatible Reflectors for DDM 119 and DDM 119NR

Manufacturer	M. Part Number	beam angle (deg)	outer dim (mm)	height (mm)	optical finish	optical finish 2	attach method
ACL	5849(S)HGL FAC		71.5	55	specular	faceted	twist lock
ACL	5850(S)HGL FAC		71.5	55	specular	faceted	twist lock
ACL	5851(S)HGL FAC		71.5	55	specular	faceted	twist lock
ACL	5853(S)HGL GL		140	60	specular		twist lock
Widegerm	3207T-XC	38	82	46	diffuse	none	twist lock
Widegerm	4201T-XM	13	111	69	specular	faceted	twist lock
Widegerm	1009T-XC	38	49	30.5	specular	faceted	twist lock
Widegerm	1010T-XC				specular		twist lock
Diffractive Optics	P6762 (XSA-20)	40	50	29	specular	none	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	1687 CR	27	65	35	diffuse	none	TE Type 2 clip
khatod	1688 ST	38	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

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.