

APPLICATIONS

The CLMAL series is a group of premium architectural LED area luminaires designed to illuminate parking areas, pathways, building facades, loading docks, and a wide variety of other large, general site lighting applications. Multiple mounting options make the CLMAL a versatile luminaire for flood lighting, pole-, ground- and wall-mounted area lighting, and other outdoor lighting requirements.

FEATURES

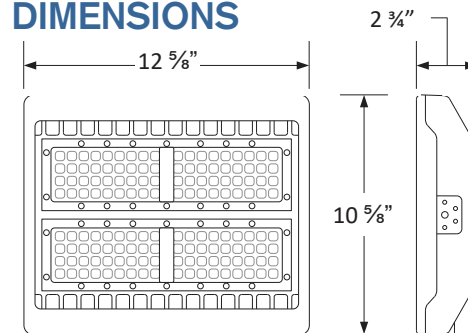
- Available in 4000k (neutral white) and 5000k (cool white) color temperatures.*
- Long-life LEDs provide 372,000 hours of operation with at least 70% of initial lumen output (L_{70})**
- Available models provide from 9,816 to 18,408 lumens, and from 117 to 131 lumens per watt (LPW)*
- IES roadway photometric distributions include types II-V
- NEMA floodlight distributions include very narrow (3H x 3V), medium narrow (4H x 4V), medium wide (5H x 5V) & very wide (7H x 7V)
- Universal 120-277 AC voltage (50-60Hz) is standard
- Power factor > 0.90
- Total harmonic distortion < 20%
- Color rendering index > 80
- Optional glare shields (full & half) & wire guards are available
- Optional NEMA photocell installation kit provides watertight photocell attachment to driver enclosure cover
- Die cast aluminum housing with durable, dark bronze powder coat finish—at least 2 mils thick on all surfaces—and a heat-resistant polycarbonate lens
- Driver enclosure is sealed with a water-tight, silicone rubber gasket
- Effective projected areas (EPA's) are:
 - Front = 0.24 square feet
 - Side = 0.29 square feet
 - Face = 1.10 square feet
- Easy installation in new construction or retrofit applications

* Contact factory for other color temperatures and lumen packages.

** L_{70} hours are IES TM-21-11 calculated hours.



DIMENSIONS



WARRANTY & LISTINGS

- cULus listed for wet locations in ambient temperatures from -20°C to 45°C (-4°F to 113°F)
- IP66 rated for ingress protection
- DLC premium approved
- Flicker-free per IEEE1789-2015 (no observable adverse effects of flicker at 100% light output level)
- Lens is IK 9 rated for protection from external impacts
- Salt fog tested for 1,000 hours (ASTM B117). After salt fog testing, paint rated at 9 per ASTM D1654-05 scratch test
- Complies with FCC Part 15, class B
- Complies with EN61000-4-5, surge immunity protection (6kV)
- 5-Year Warranty of all electronics and housing

PRODUCT PARAMETER

MODEL	COLOR TEMP.	MOUNTING BRACKETS (ORDER SEPERATELY)	OPTIONS* (ORDER SEPERATELY)
CLMAL-80	40 = 4000k 50 = 5000k	-YK = Yoke Mounting Bracket, 80 – 140W	-FGS = Full Glare Shield, 80 – 140W
CLMAL-100		-TR = Trunnion Mounting Bracket, 80 – 280W	-HGS = Half Glare Shield, 80 – 140W
CLMAL-140		-ARM = Arm Mounting Bracket, 80 – 280W	-WG = Wire Guard, 80 – 140W
		-SF = Slip-Fitter Mounting Bracket, 80 – 280W	-PC = NEMA Photocell Installation Kit, 80 – 280W

ELECTRICAL DATA

Model	Color Temp.	CRI ¹	Luminaire Lumens	Luminaire Watts	Lumens Per Watt	Input Voltage ²	Power Factor			THD ³	L ₇₀ Hours ⁴	
							120V	240V	277V			
IES Roadway Distributions⁵												
Q.MAL-8040-T2	4000k	> 80	10,445	81	129.0	120-277	0.68	0.34	0.29	> 90%	< 20%	372,000
Q.MAL-8050-T2	5000k	> 80	10,584	81	130.7	120-277	0.68	0.34	0.29	> 90%	< 20%	372,000
Q.MAL-8040-T3	4000k	> 80	10,439	81	128.9	120-277	0.68	0.34	0.29	> 90%	< 20%	372,000
Q.MAL-8050-T3	5000k	> 80	10,613	81	131.0	120-277	0.68	0.34	0.29	> 90%	< 20%	372,000
Q.MAL-8040-T4	4000k	> 80	10,377	81	128.1	120-277	0.68	0.34	0.29	> 90%	< 20%	372,000
Q.MAL-8050-T4	5000k	> 80	10,491	81	129.5	120-277	0.68	0.34	0.29	> 90%	< 20%	372,000
Q.MAL-8040-T5	4000k	> 80	9,816	81	121.2	120-277	0.68	0.34	0.29	> 90%	< 20%	372,000
Q.MAL-8050-T5	5000k	> 80	10,008	81	123.6	120-277	0.68	0.34	0.29	> 90%	< 20%	372,000
NEMA Floodlight Distributions⁶												
Q.MAL-10040-T2	4000k	> 80	12,958	101	128.3	120-277	0.84	0.42	0.36	> 90%	< 20%	372,000
Q.MAL-10050-T2	5000k	> 80	13,101	101	129.7	120-277	0.84	0.42	0.36	> 90%	< 20%	372,000
Q.MAL-10040-T3	4000k	> 80	12,521	101	124.0	120-277	0.84	0.42	0.36	> 90%	< 20%	372,000
Q.MAL-10050-T3	5000k	> 80	12,673	101	125.5	120-277	0.84	0.42	0.36	> 90%	< 20%	372,000
Q.MAL-10040-T4	4000k	> 80	12,693	101	125.7	120-277	0.84	0.42	0.36	> 90%	< 20%	372,000
Q.MAL-10050-T4	5000k	> 80	12,770	101	126.4	120-277	0.84	0.42	0.36	> 90%	< 20%	372,000
Q.MAL-10040-T5	4000k	> 80	11,834	101	117.2	120-277	0.84	0.42	0.36	> 90%	< 20%	372,000
Q.MAL-10050-T5	5000k	> 80	12,084	101	119.6	120-277	0.84	0.42	0.36	> 90%	< 20%	372,000
Q.MAL-14040-T2	4000k	> 80	17,740	141	125.8	120-277	1.18	0.59	0.51	> 90%	< 20%	372,000
Q.MAL-14050-T2	5000k	> 80	18,009	141	127.7	120-277	1.18	0.59	0.51	> 90%	< 20%	372,000
Q.MAL-14040-T3	4000k	> 80	17,176	141	121.8	120-277	1.18	0.59	0.51	> 90%	< 20%	372,000
Q.MAL-14050-T3	5000k	> 80	17,338	141	123.0	120-277	1.18	0.59	0.51	> 90%	< 20%	372,000
Q.MAL-14040-T4	4000k	> 80	17,865	141	126.7	120-277	1.18	0.59	0.51	> 90%	< 20%	372,000
Q.MAL-14050-T4	5000k	> 80	18,080	141	128.2	120-277	1.18	0.59	0.51	> 90%	< 20%	372,000
Q.MAL-14040-T5	4000k	> 80	16,438	141	116.6	120-277	1.18	0.59	0.51	> 90%	< 20%	372,000
Q.MAL-14050-T5	5000k	> 80	16,687	141	118.3	120-277	1.18	0.59	0.51	> 90%	< 20%	372,000
NEMA Floodlight Distributions⁶												
Q.MAL-8040-VN	4000k	> 80	10,324	81	127.5	120-277	0.68	0.34	0.29	> 90%	< 20%	372,000
Q.MAL-8050-VN	5000k	> 80	10,417	81	128.6	120-277	0.68	0.34	0.29	> 90%	< 20%	372,000
Q.MAL-8040-MN	4000k	> 80	10,357	81	127.9	120-277	0.68	0.34	0.29	> 90%	< 20%	372,000
Q.MAL-8050-MN	5000k	> 80	10,435	81	128.8	120-277	0.68	0.34	0.29	> 90%	< 20%	372,000
Q.MAL-8040-MW	4000k	> 80	10,217	81	126.1	120-277	0.68	0.34	0.29	> 90%	< 20%	372,000
Q.MAL-8050-MW	5000k	> 80	10,317	81	127.4	120-277	0.68	0.34	0.29	> 90%	< 20%	372,000
Q.MAL-8040-VW	4000k	> 80	9,818	81	121.2	120-277	0.68	0.34	0.29	> 90%	< 20%	372,000
Q.MAL-8050-VW	5000k	> 80	10,009	81	123.6	120-277	0.68	0.34	0.29	> 90%	< 20%	372,000
Q.MAL-10040-VN	4000k	> 80	13,112	101	129.8	120-277	0.84	0.42	0.36	> 90%	< 20%	372,000
Q.MAL-10050-VN	5000k	> 80	13,240	101	131.1	120-277	0.84	0.42	0.36	> 90%	< 20%	372,000
Q.MAL-10040-MN	4000k	> 80	13,102	101	129.7	120-277	0.84	0.42	0.36	> 90%	< 20%	372,000
Q.MAL-10050-MN	5000k	> 80	13,243	101	131.1	120-277	0.84	0.42	0.36	> 90%	< 20%	372,000
Q.MAL-10040-MW	4000k	> 80	13,081	101	129.5	120-277	0.84	0.42	0.36	> 90%	< 20%	372,000
Q.MAL-10050-MW	5000k	> 80	13,202	101	130.7	120-277	0.84	0.42	0.36	> 90%	< 20%	372,000
Q.MAL-10040-VW	4000k	> 80	11,834	101	117.2	120-277	0.84	0.42	0.36	> 90%	< 20%	372,000
Q.MAL-10050-VW	5000k	> 80	12,084	101	119.6	120-277	0.84	0.42	0.36	> 90%	< 20%	372,000
Q.MAL-14040-VN	4000k	> 80	18,230	141	129.3	120-277	1.18	0.59	0.51	> 90%	< 20%	372,000
Q.MAL-14050-VN	5000k	> 80	18,394	141	130.5	120-277	1.18	0.59	0.51	> 90%	< 20%	372,000
Q.MAL-14040-MN	4000k	> 80	18,249	141	129.4	120-277	1.18	0.59	0.51	> 90%	< 20%	372,000
Q.MAL-14050-MN	5000k	> 80	18,408	141	130.6	120-277	1.18	0.59	0.51	> 90%	< 20%	372,000
Q.MAL-14040-MW	4000k	> 80	18,179	141	128.9	120-277	1.18	0.59	0.51	> 90%	< 20%	372,000
Q.MAL-14050-MW	5000k	> 80	18,360	141	130.2	120-277	1.18	0.59	0.51	> 90%	< 20%	372,000
Q.MAL-14040-VW	4000k	> 80	16,438	141	116.6	120-277	1.18	0.59	0.51	> 90%	< 20%	372,000
Q.MAL-14050-VW	5000k	> 80	16,687	141	118.3	120-277	1.18	0.59	0.51	> 90%	< 20%	372,000

¹ Color rendering index.

² All 50-60Hz.

³ Total harmonic distortion.

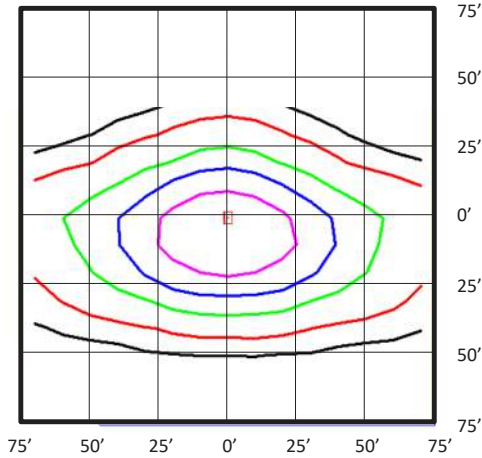
⁴ L₇₀ refers to the number of hours at which lumen output declines to 70% of the initial level. L₇₀ hours are IES TM-21-11 calculated hours.

⁵ T2 = type II, T3 = type III, T4 = type IV, and T5 = type V.

⁶ VN = very narrow, MN = medium narrow, MW = medium wide, and VW = very wide.

PHOTOMETRIC DATA

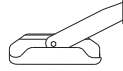
CLMAL-8040-T2 (10,445 Lumens, Type II Distribution)



Foot Candles

- 5.0
- 2.0
- 1.0
- 0.5
- 0.2
- 0.1

Luminaire Orientation:



Notes:

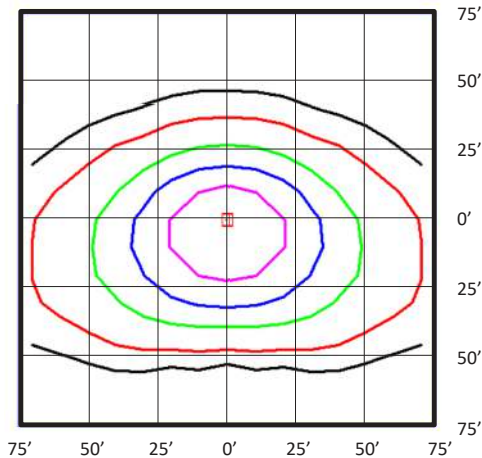
- Isofootcandle plots depict initial footcandles at grade.
- Gridlines represent units of mounting height of 25 feet.

FL - Front - Low (0-30)	1,257	12%
FM - Front - Medium (30-60)	3,523	34%
FH - Front - High (60-80)	1,863	18%
FVH - Front - Very High (80-90)	136	1%

BL - Back - Low (0-30)	834	8%
BM - Back - Medium (30-60)	1,687	16%
BH - Back - High (60-80)	1,065	10%
BVH - Back - Very High (80-90)	90	1%
Total Back Light	3,676	35%

UL - Up Light - Low (90-100)	0	0%
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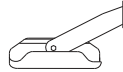
CLMAL-8040-T3 (10,439 Lumens, Type III Distribution)



Foot Candles

- 5.0
- 2.0
- 1.0
- 0.5
- 0.2
- 0.1

Luminaire Orientation:



Notes:

- Isofootcandle plots depict initial footcandles at grade.
- Gridlines represent units of mounting height of 25 feet.

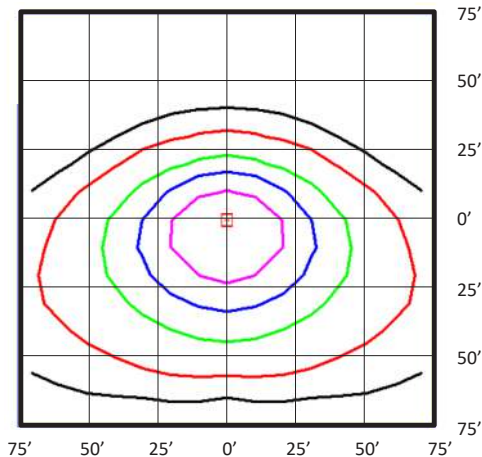
BUG Rating: B2-U0-G2

FL - Front - Low (0-30)	1,196	11%
FM - Front - Medium (30-60)	3,384	32%
FH - Front - High (60-80)	1,952	19%
FVH - Front - Very High (80-90)	136	1%

BL - Back - Low (0-30)	913	9%
BM - Back - Medium (30-60)	1,801	17%
BH - Back - High (60-80)	990	9%
BVH - Back - Very High (80-90)	67	1%
Total Back Light	3,771	36%

UL - Up Light - Low (90-100)	0	0%
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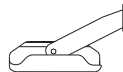
CLMAL-8040-T4 (10,377 Lumens, Type IV Distribution)



Foot Candles

- 5.0
- 2.0
- 1.0
- 0.5
- 0.2
- 0.1

Luminaire Orientation:



Notes:

- Isofootcandle plots depict initial footcandles at grade.
- Gridlines represent units of mounting height of 25 feet.

BUG Rating: B2-U0-G3

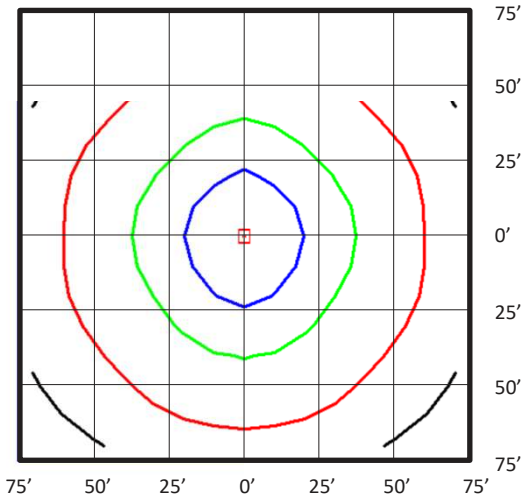
FL - Front - Low (0-30)	1,289	12%
FM - Front - Medium (30-60)	3,309	32%
FH - Front - High (60-80)	2,399	23%
FVH - Front - Very High (80-90)	308	3%

BL - Back - Low (0-30)	890	9%
BM - Back - Medium (30-60)	1,398	13%
BH - Back - High (60-80)	713	7%
BVH - Back - Very High (80-90)	72	1%
Total Back Light	3,073	30%

UL - Up Light - Low (90-100)	0	0%
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PHOTOMETRIC DATA

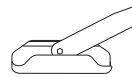
CLMAL-8040-T2 (10,445 Lumens, Type II Distribution)



Foot Candles



Luminaire Orientation:



FL	- Front - Low (0-30)	456	5%
FM	- Front - Medium (30-60)	1,929	20%
FH	- Front - High (60-80)	2,319	24%
FVH	- Front - Very High (80-90)	266	3%

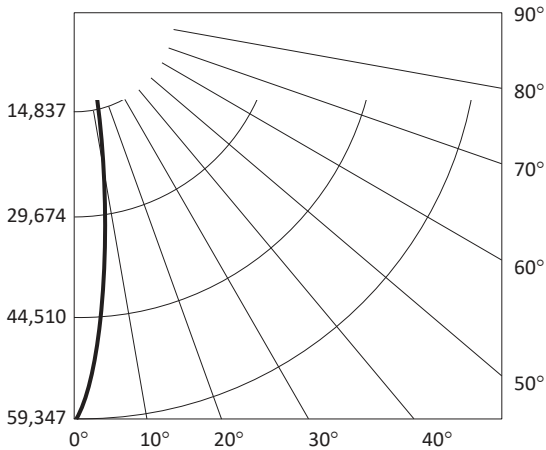
BL	- Back - Low (0-30)	449	5%
BM	- Back - Medium (30-60)	1,852	19%
BH	- Back - High (60-80)	2,250	23%
BVH	- Back - Very High (80-90)	295	3%
Total Back Light		4,846	49%

UL	- Up Light - Low (90-100)	0	0%
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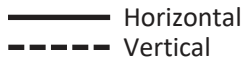
Notes:

- Isofootcandle plots depict initial footcandles at grade.
- Gridlines represent units of mounting height of 25 feet.

CLMAL-8040-VN (10,324 Lumens, Very Narrow)



Maximum Candela = 59,347



NEMA Floodlight Data

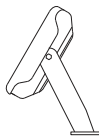
Field Angles:

- Horizontal 38°
- Vertical 39°

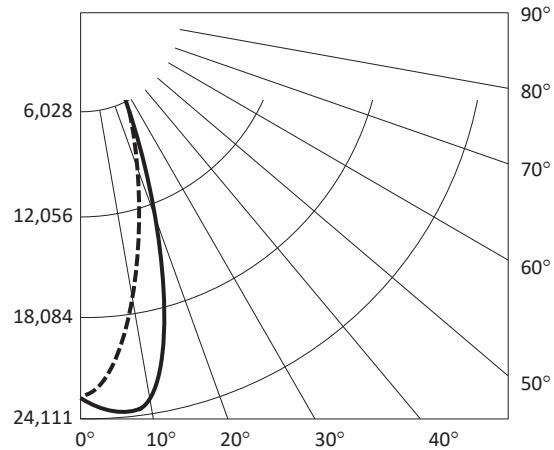
NEMA Type:

- Horizontal 3H
- Vertical 3V

Luminaire Orientation:



CLMAL-8040-MN (10,357 Lumens, Medium Narrow)



Maximum Candela = 24,111



NEMA Floodlight Data

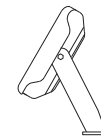
Field Angles:

- Horizontal 59°
- Vertical 60°

NEMA Type:

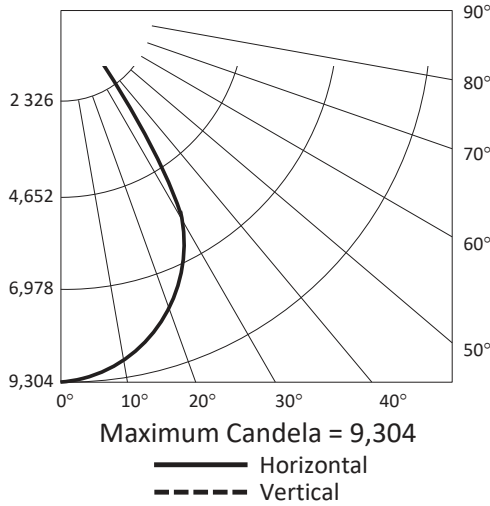
- Horizontal 4H
- Vertical 4V

Luminaire Orientation:



PHOTOMETRIC DATA

CLMAL-8040-MW (10,217 Lumens, Medium Wide)



NEMA Floodlight Data

Field Angles:

- Horizontal 86°
- Vertical 86°

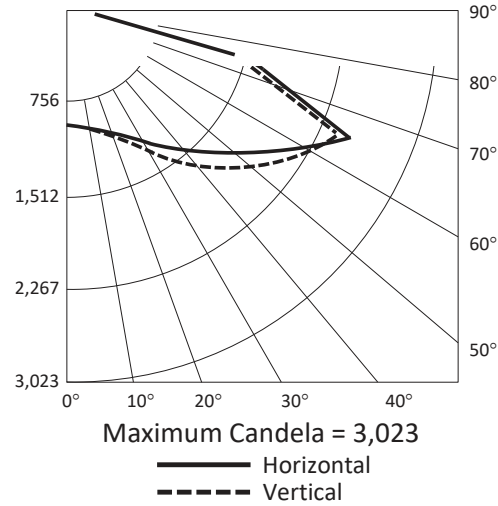
NEMA Type:

- Horizontal 5H
- Vertical 5V

Luminaire Orientation:



CLMAL-8040-VW (9,818 Lumens, Very Wide)



NEMA Floodlight Data

Field Angles:

- Horizontal 156°
- Vertical 172°

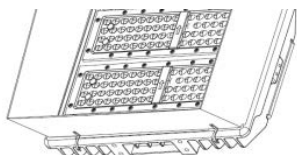
NEMA Type:

- Horizontal 7H
- Vertical 7V

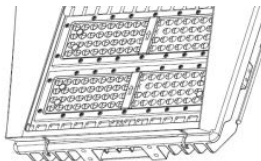
Luminaire Orientation:



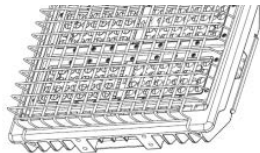
SHIELDS, WIRE GUARDS & NEMA PHOTOCELL INSTALLATION KIT



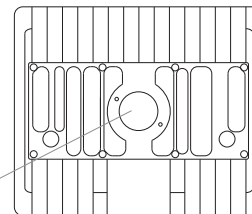
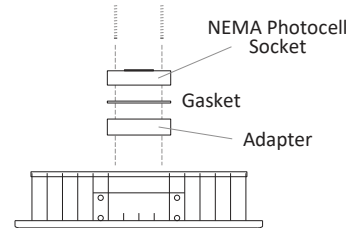
Full Shield
(CAMAL-FGS-80/140)



Half Shield
(CAMAL-HGS80/140)

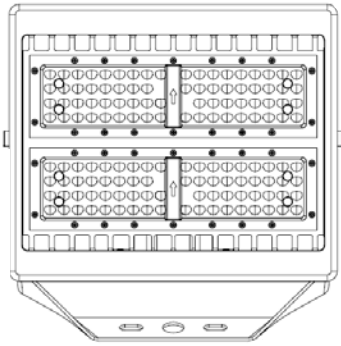


Wire Guard
(CAMAL-WG-80/140)

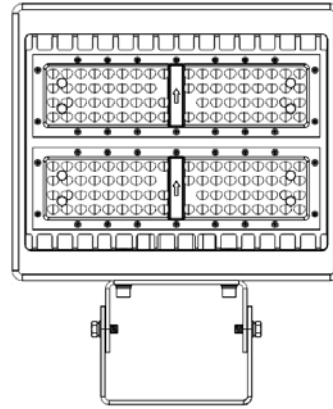
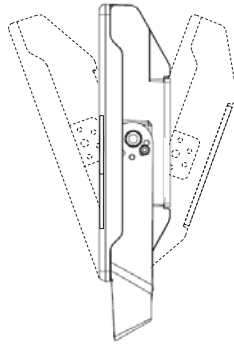


NEMA Photocell Installation Kit
(CAMAL-PC-80/280)

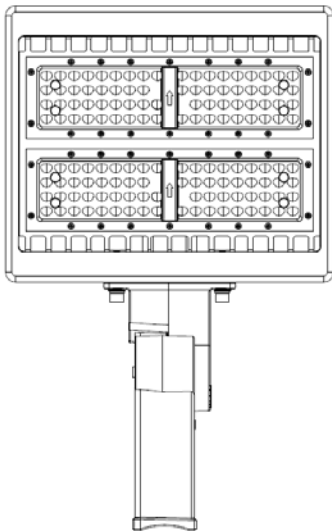
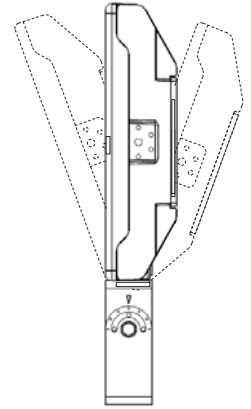
MOUNTING ACCESSORIES



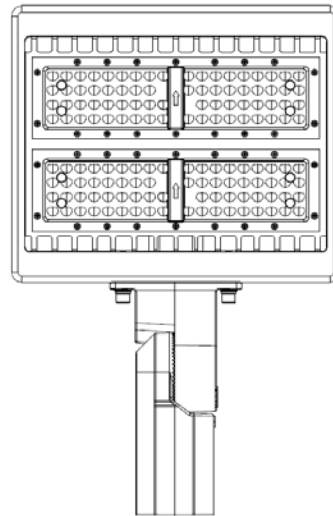
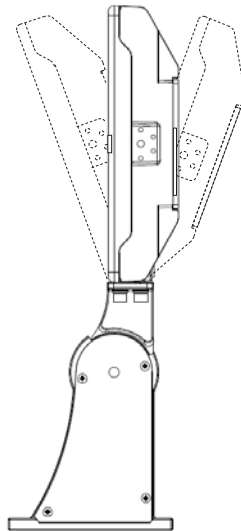
Yoke Mount



Trunnion Mount



Adjustable Arm Mount



Slip-Fitter Mount

