

# Water, Vibration and Oil Resistant LED Work Lights with IP67/ IP69K Protection

## QML / QMHL

Water, vibration and oil resistant LED work light, suitable for machine tools applications and high temperature water cleaning environments

### PRODUCT SPECIFICATION

QML | QMHL

**Materials** Housing-Al, Lens-Tempered glass  
 Bracket-K Type-STS430/MF Type-Al  
**Ambient operating temperature** -30°C to +60°C  
**Protection rating** IP67/IP69K  
**Certificates** CE, UL

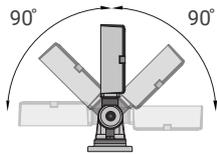


- Excellent oil resistance with a special sealing structure with IP67 protection rating, suitable for machine tool applications with cutting fluids
- Suitable for high pressure and high temperature water cleaning environment(IP69K)
- Tempered glass prevents damage from machine tool chips
- Flat glass bonding structure
- No external substances on the glass despite of long-term use
- Can select between QML model (Anti-glare type) and QMHL model (High luminance type) depending on your work conditions
- Can select from a variety of bracket options from direct mount, tilt mount, and pan/ tilt mount type to fit your work environment or lighting condition needs
- Wired type and M12 connector type allow for a customized model that M12 connector can be attached at the end of wires.
- Customized oil resistant cable attached type available

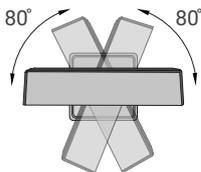
### Tilt/Pan Type MF Bracket, Water and Oil Resistant

#### MF type bracket

SIDE VIEW



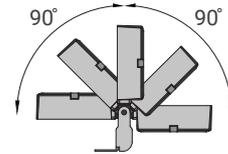
TOP VIEW



- Water and oil resistant MF type brackets protect output cable from cutting fluid and chips
- Has a tilt adjustment angle of 180° and a pan angle of 160°

#### K type bracket

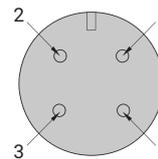
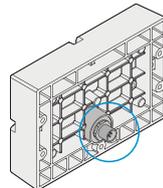
SIDE VIEW



- Has tilt adjustment with wide angle of 180°

### M12 connector equipped

- Applicable model: QML-150-D, QML-150-K, QML-250-D, QML-250-K, QMHL-150-D, QMHL-150-K, QMHL-250-D, QMHL-250-K



| PIN | DESCRIPTION |
|-----|-------------|
| 1   | DC (-)      |
| 2   | N/A         |
| 3   | DC (+)      |
| 4   | N/A         |

### Test Conditions/Regulations

|  |  |
|--|--|
| Vibration Resistance Test                              | <ul style="list-style-type: none"> <li>· Acceleration: 20m/s<sup>2</sup></li> <li>· Duration: 1 octave/min</li> <li>· Range of frequency: 10-150Hz</li> <li>· Amplitude: 10 times maximum 7.5mm, direction: test 10times in 3 directions(X, Y, Z)</li> </ul>   |
| Shock Resistance Test                                  | <ul style="list-style-type: none"> <li>· Acceleration: 20g</li> <li>· Directions: ±X, ±Y, ±Z</li> <li>· Numbers: 3 times each directions</li> <li>· Time period: 11ms for each direction</li> <li>· Waveform: Half sine</li> </ul>   |
| Oil Resistance Test                                    | <ul style="list-style-type: none"> <li>· General test: Tested in water soluble and non-water soluble flooded environments for 500 hours.</li> <li>· High temperature oil resistance test: Place the object in a constant temperature water bath at 80°C for two hours and then submerge the object in the room temperature oil diluent for 24hours.</li> </ul>                 |
| Solid Particle Protection Test(IP6X)                   | <ul style="list-style-type: none"> <li>· After reducing the pressure inside the test object, spray talcum powder with a nominal diameter of 50um for 2 hours at 40-60meters/hour inside the dust chamber.</li> <li>· IEC60529</li> </ul>   |
| High-pressure, High-temperature Wash-down Test (IPX7)  | <ul style="list-style-type: none"> <li>· Test ingress by putting the object under 1000mm water with 2bar of pressure for 30 mins</li> </ul>  |
| High-pressure, High-temperature Wash-down Test (IP69K) | <ul style="list-style-type: none"> <li>· Spray nozzle provides 80°C water with pressure of 80–100 bar and a flow rate of 14–16 L/min to the object</li> <li>· Distance between spray nozzle and the test object: 10-15cm</li> <li>· Water spray angle: 0°, 30°, 60°, 90°</li> <li>· The nozzle is held at 4 of each angle for 30 seconds</li> <li>· DIN 40050 PART9</li> </ul> |



### QML-150 / QML-250

- Equipped anti-glare filter
- Suitable for environments that require stable intensity illumination for improved visibility



**QML-150-D**



**QML-250-D**



**QML-150-K**



**QML-250-K**



**QML-150-MF**



**QML-250-MF**

### QMHL-150 / QMHL-250

- High intensity illumination and condenser lens combination
- High intensity illumination allows for the environment both long distance and straightness are required



**QMHL-150-D**



**QMHL-250-D**



**QMHL-150-K**



**QMHL-250-K**



**QMHL-150-MF**



**QMHL-250-MF**

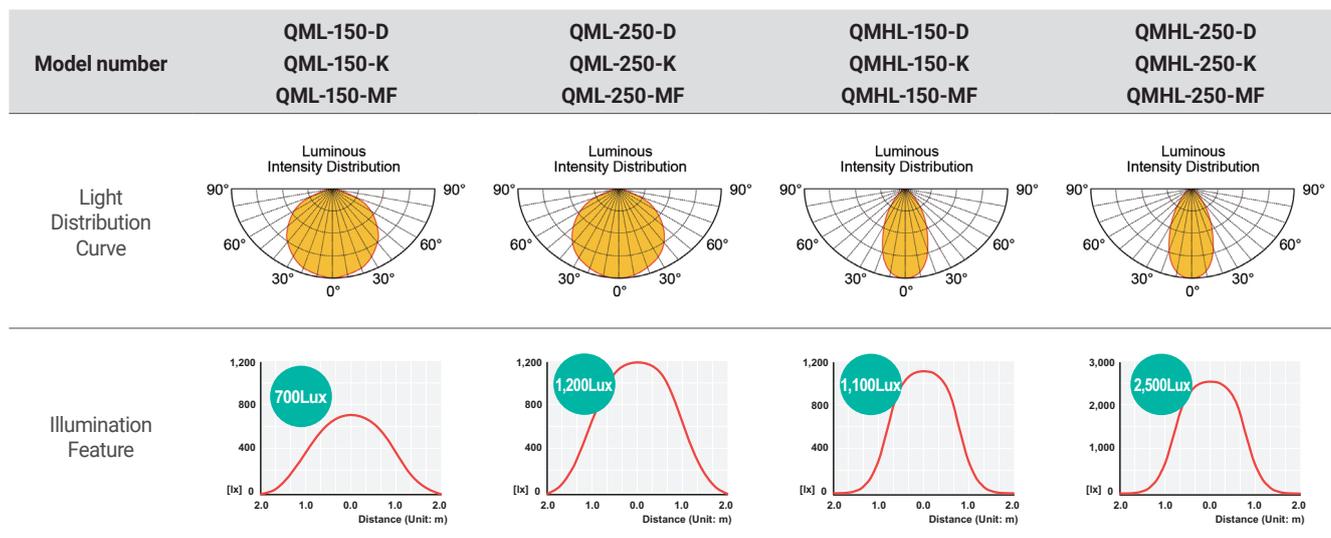
### QML / QMHL Water, Vibration and Oil Resistant LED Work Lights

| Optics Specifications       |   |  |   |   |
|-----------------------------|---|--|---|---|
| Model number                | QML-150-D<br>QML-150-K<br>QML-150-MF                              | QML-250-D<br>QML-250-K<br>QML-250-MF                         | QMHL-150-D<br>QMHL-150-K<br>QMHL-150-MF                         | QMHL-250-D<br>QMHL-250-K<br>QMHL-250-MF                         |
| Directions                  | Translucent   | Translucent  | Transparent   | Transparent   |
| Light color                 | Cooldaylight  |  |   |   |
| Color temperature           | 6,000-7,000K  |  |   |   |
| Luminous flux               | 850lm   | 1,900lm  | 900lm   | 1,800lm   |
| Illumination(at 1m)         | 700Lux  | 1,200Lux   | 1,100Lux  | 2,500Lux  |
| Specifications              |   |  |   |   |
| Model number                | QML-150-D<br>QML-150-K<br>QML-150-MF                              | QML-250-D<br>QML-250-K<br>QML-250-MF                         | QMHL-150-D<br>QMHL-150-K<br>QMHL-150-MF                         | QMHL-250-D<br>QMHL-250-K<br>QMHL-250-MF                         |
| Voltage                     | DC24V   | DC24V  | DC24V   | DC24V   |
| Range for operation voltage | DC21.5V-26.5V   |  |   |   |
| Power consumption           | 15W   | 32.4W  | 15W   | 25W   |
| Insulation resistance       | Min. 100MΩ(500V DC mega ohm meter)                                |  |   |   |
| Withstanding voltage        | DC: 500VAC, 60Hz, 1 minute  |  |   |   |
| Operating temperature       | -30°C to +60°C  |  |   |   |
| Protection rating           | IP67/IP69K  |  |   |   |
| Materials                   | Housing-Al, Lens-Tempered glass, Bracket-K Type-ST5430/MF Type-AI |  |   |   |
| Certification               | CE  |  |   |   |
| Weight(Approx.)             | QML-150-D: 0.82kg<br>QML-150-K: 0.88kg<br>QML-150-MF: 1.09kg      | QML-250-D: 1.31kg<br>QML-250-K: 1.37kg<br>QML-250-MF: 1.58kg | QMHL-150-D: 0.84kg<br>QMHL-150-K: 0.99kg<br>QMHL-150-MF: 1.11kg | QMHL-250-D: 1.32kg<br>QMHL-250-K: 1.39kg<br>QMHL-250-MF: 1.60kg |

※ UL Listed: QML Series only

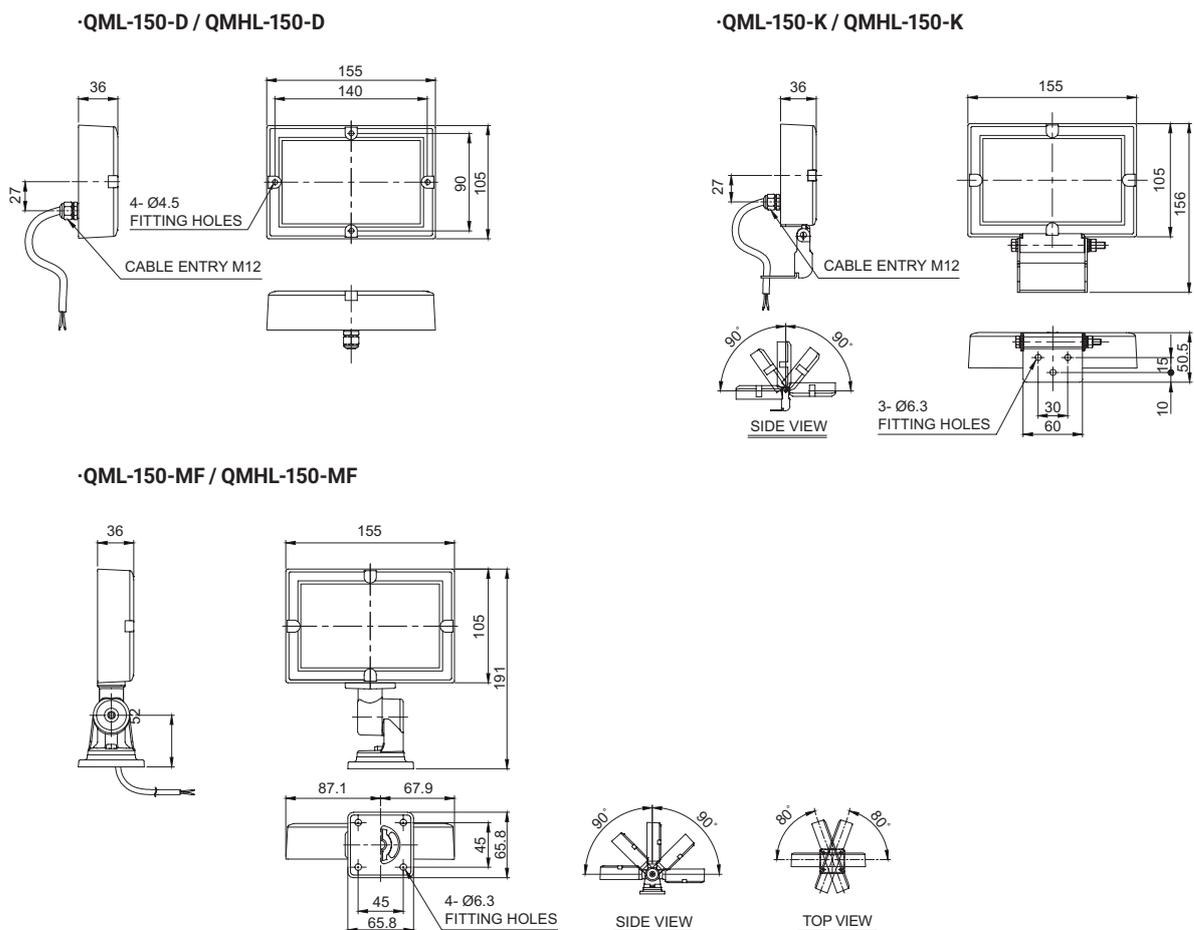
# QML / QMHL

## Light Distribution and Illuminance



## Technical Diagram

Units: mm

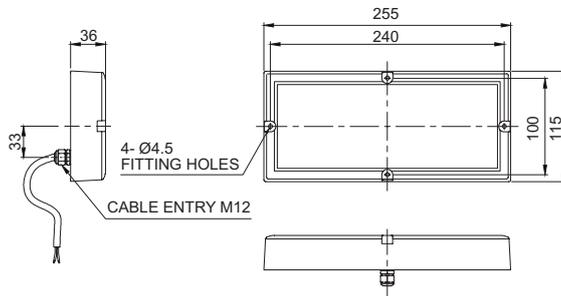


· External power line Dura & Flex-F VU(0.5sq) x 2C 450mm

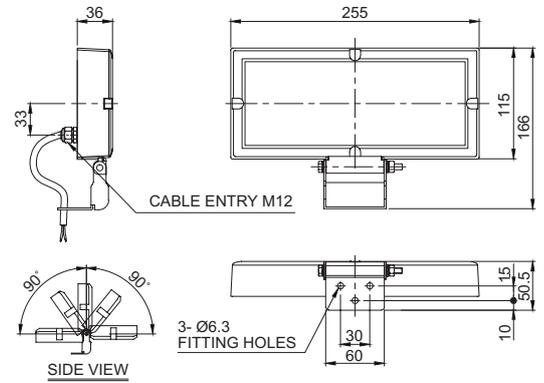
## Technical Diagram

Units: mm

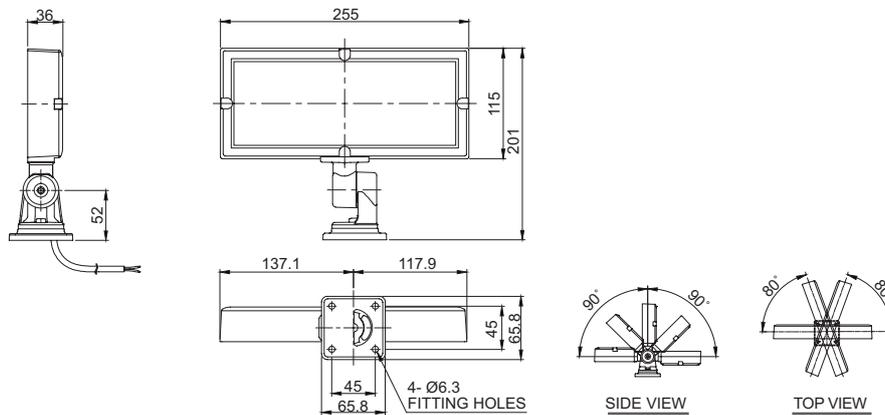
·QML-250-D / QMHL-250-D



·QML-250-K / QMHL-250-K



·QML-250-MF / QMHL-250-MF



· External power line Dura & Flex-F VU(0.5sq) x 2C 450mm

## Ordering Specification

|                       |   |                  |   |  |   |           |   |  |
|-----------------------|---|------------------|---|--|---|-----------|---|--|
| QML                   | - | 150              | - | D  | - | 24        | - | M12  |
| [Model number]        |   | [Product length] |   | [Mount bracket]  |   | [Voltage] |   | [Connector]                                    |
| QML-Anti-Glare        |   | 150-155mm        |   | D: Self stand  |   | 24-DC24V  |   | (None) - Specified-power cable withdrawal type |
| QMHL-High illuminatio |   | 250-255mm        |   | K: Vertical angle adjustment<br>MF: Vertical, horizontality angle adjustment |   |           |   | M12 - M12 connector type                       |

## Cautions in use

- Please check the safety manual before use, accidents such as fire or electric shock can occur if the safety manual is not followed.
- This product can be changed without any notification. Latest information is on the website.