



**road Volintiri, Moldova**

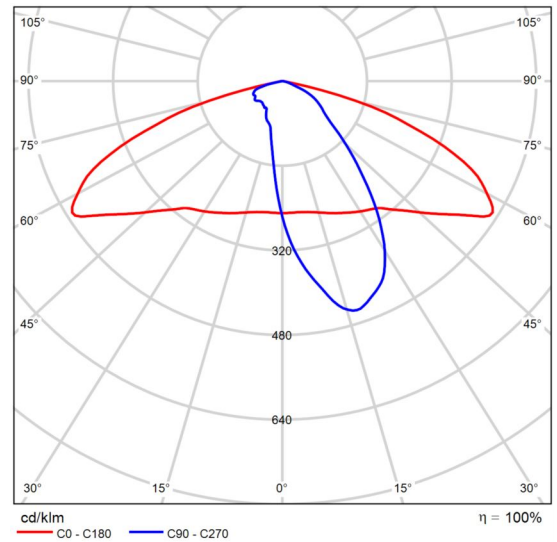


## Product data sheet

Vizulo - Micro Martin 20 W 8 LED



|                    |                           |
|--------------------|---------------------------|
| Article No.        | MRUE 020 840 L04<br>AA008 |
| P                  | 20.0 W                    |
| $\Phi_{Lamp}$      | 2667 lm                   |
| $\Phi_{Luminaire}$ | 2667 lm                   |
| $\eta$             | 100.00 %                  |
| Luminous efficacy  | 133.4 lm/W                |
| CCT                | 4000 K                    |
| CRI                | 80                        |



Polar LDC

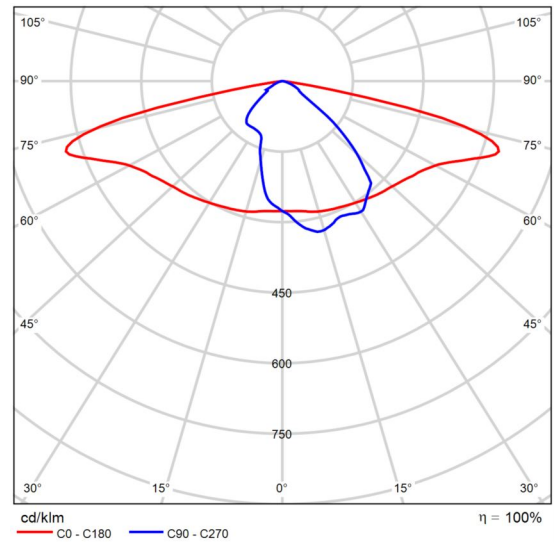


## Product data sheet

Vizulo - Micro Martin 32 W 16 LED



|                    |                           |
|--------------------|---------------------------|
| Article No.        | MRUE 032 840 BC5<br>BT016 |
| P                  | 32.0 W                    |
| $\Phi_{Lamp}$      | 4542 lm                   |
| $\Phi_{Luminaire}$ | 4542 lm                   |
| $\eta$             | 100.00 %                  |
| Luminous efficacy  | 141.9 lm/W                |
| CCT                | 4000 K                    |
| CRI                | 80                        |

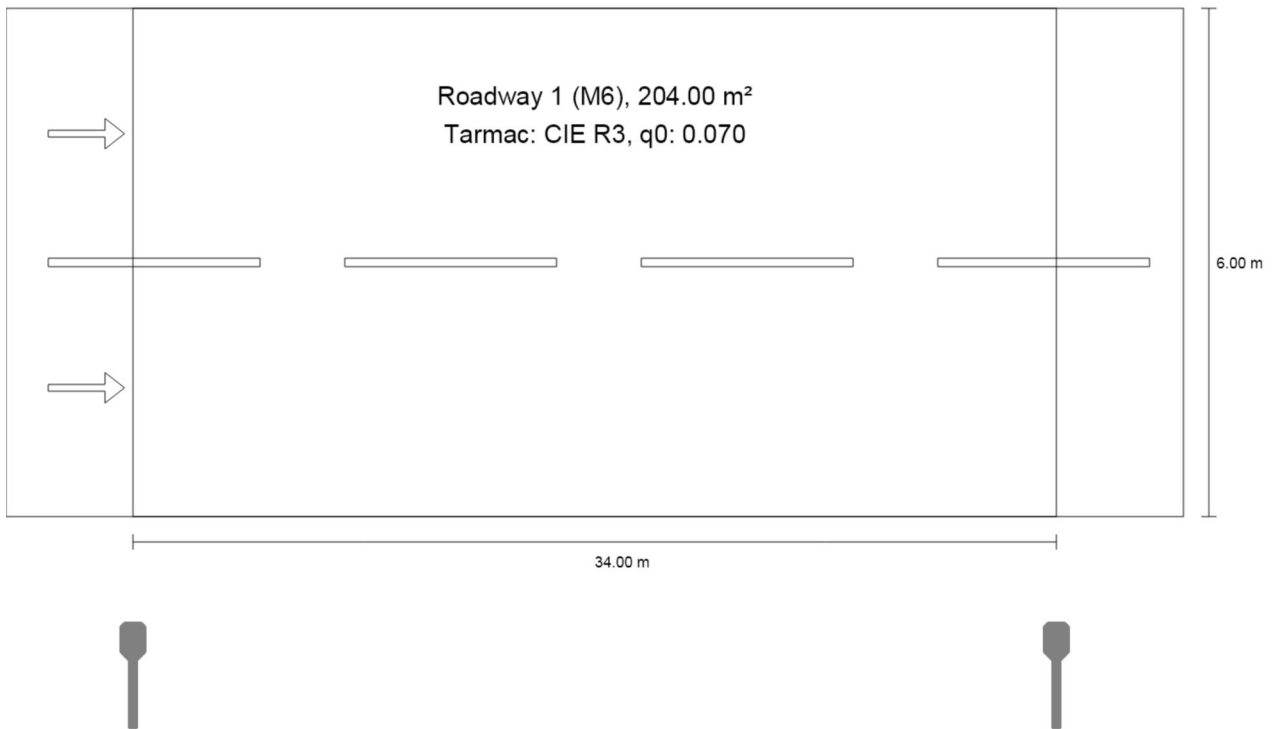


Polar LDC



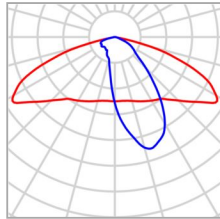
Street 1

### Summary (according to EN 13201:2015)



Street 1

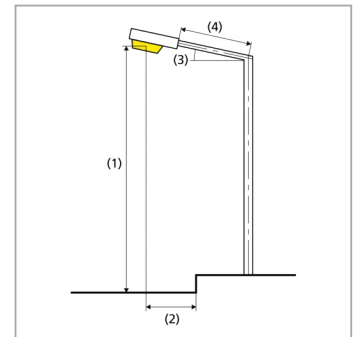
## Summary (according to EN 13201:2015)



|              |                            |                           |          |
|--------------|----------------------------|---------------------------|----------|
| Manufacturer | Vizulo                     | P                         | 20.0 W   |
| Article No.  | MRUE 020 840 L04<br>AA008  | $\Phi_{\text{Lamp}}$      | 2667 lm  |
| Article name | Micro Martin 20 W 8<br>LED | $\Phi_{\text{Luminaire}}$ | 2667 lm  |
| Fitting      | 1x 8 LED MOD AA            | $\eta$                    | 100.00 % |

### Micro Martin 20 W 8 LED (single side bottom)

|  |  |
|--|--|
| Pole distance  | 34.000 m   |
| (1) Light spot height  | 8.000 m  |
| (2) Light point overhang   | -1.500 m   |
| (3) Boom inclination   | 5.0°   |
| (4) Boom length  | 1.000 m  |
| Annual operating hours   | 4000 h: 100.0 %, 20.0 W  |
| Wattage / route  | 580.0 W/km   |
| ULR / ULOR   | 0.00 / 0.00  |
| Max. luminous intensities<br>Any direction forming the specified angle from the<br>downward vertical, with the luminaire installed for<br>use.   | $\geq 70^\circ$ : 505 cd/klm<br>$\geq 80^\circ$ : 77.8 cd/klm<br>$\geq 90^\circ$ : 1.40 cd/klm |
| Luminous intensity class<br>The luminous intensity values in [cd/klm] for<br>calculation of the luminous intensity class refer to the<br>luminaire luminous flux according to EN 13201:2015. | G*3  |
| Glare index class  | D.6  |
| MF   | 0.80   |





Street 1

## Summary (according to EN 13201:2015)

Results for valuation fields

A maintenance factor of 0.80 was used for calculating for the installation.

|                | Symbol   | Calculated             | Target                   | Check |
|----------------|----------|------------------------|--------------------------|-------|
| Roadway 1 (M6) | $L_{av}$ | 0.31 cd/m <sup>2</sup> | ≥ 0.30 cd/m <sup>2</sup> | ✓     |
|                | $U_o$    | 0.42                   | ≥ 0.35                   | ✓     |
|                | $U_l$    | 0.51                   | ≥ 0.40                   | ✓     |
|                | TI       | 8 %                    | ≤ 20 %                   | ✓     |
|                | $R_{EI}$ | 0.44                   | ≥ 0.30                   | ✓     |

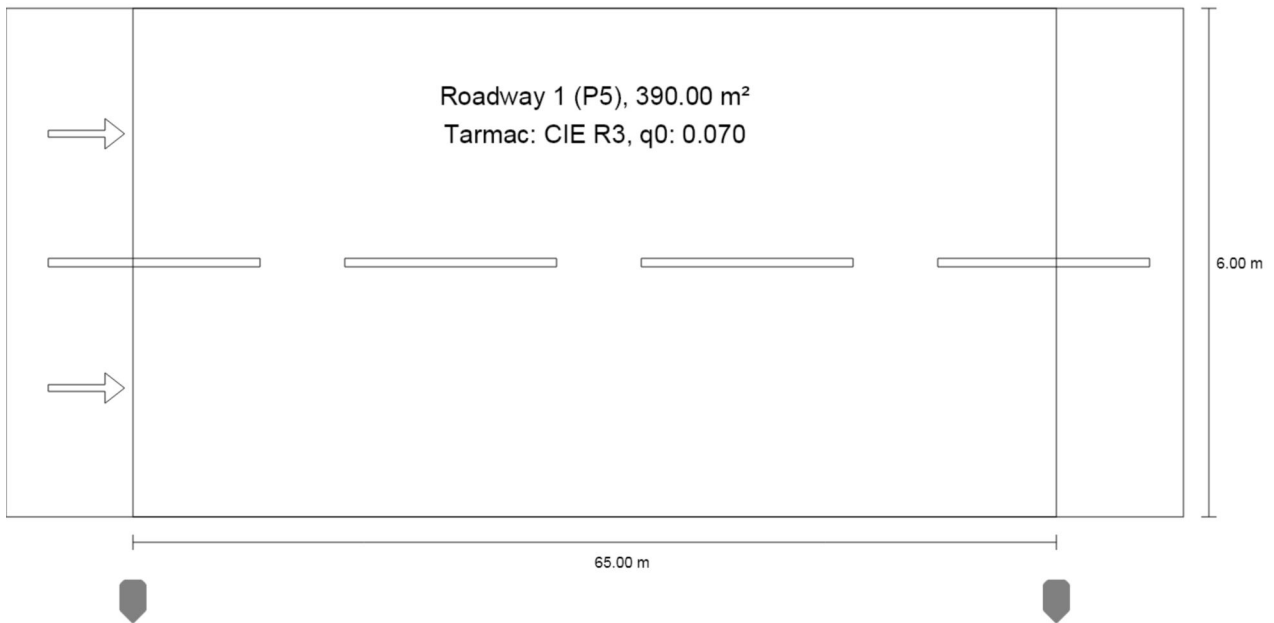
Results for energy efficiency indicators

|   | Symbol | Calculated                | Energy Consumption |
|---|--------|---------------------------|--------------------|
| Street 1  | $D_p$  | 0.018 W/lx*m <sup>2</sup> | -                  |
| Micro Martin 20 W 8 LED<br>(single side bottom) | $D_e$  | 0.4 kWh/m <sup>2</sup> yr | 80.0 kWh/yr        |



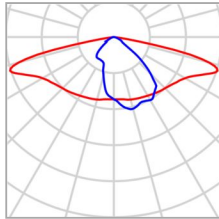
Street 2

### Summary (according to EN 13201:2015)



Street 2

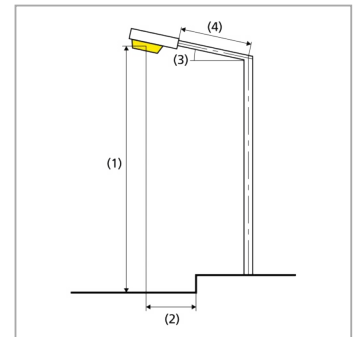
## Summary (according to EN 13201:2015)



|              |                             |                           |          |
|--------------|-----------------------------|---------------------------|----------|
| Manufacturer | Vizulo                      | P                         | 32.0 W   |
| Article No.  | MRUE 032 840 BC5<br>BT016   | $\Phi_{\text{Lamp}}$      | 4542 lm  |
| Article name | Micro Martin 32 W 16<br>LED | $\Phi_{\text{Luminaire}}$ | 4542 lm  |
| Fitting      | 1x 16 LED MOD BT            | $\eta$                    | 100.00 % |

### Micro Martin 32 W 16 LED (single side bottom)

|  |   |
|--|---|
| Pole distance  | 65.000 m  |
| (1) Light spot height  | 7.500 m   |
| (2) Light point overhang   | -1.000 m  |
| (3) Boom inclination   | 0.0°  |
| (4) Boom length  | 0.000 m   |
| Annual operating hours   | 4000 h: 100.0 %, 32.0 W   |
| Wattage / route  | 480.0 W/km  |
| ULR / ULOR   | 0.00 / 0.00   |
| Max. luminous intensities<br>Any direction forming the specified angle from the<br>downward vertical, with the luminaire installed for<br>use.   | $\geq 70^\circ$ : 659 cd/klm<br>$\geq 80^\circ$ : 229 cd/klm<br>$\geq 90^\circ$ : 0.00 cd/klm |
| Luminous intensity class<br>The luminous intensity values in [cd/klm] for<br>calculation of the luminous intensity class refer to the<br>luminaire luminous flux according to EN 13201:2015. | -   |
| Glare index class  | D.5   |
| MF   | 0.80  |







## Street 2

**Summary (according to EN 13201:2015)**

## Results for valuation fields

A maintenance factor of 0.80 was used for calculating for the installation.

|                | Symbol    | Calculated | Target           | Check |
|----------------|-----------|------------|------------------|-------|
| Roadway 1 (P5) | $E_{av}$  | 4.32 lx    | [3.00 - 4.50] lx | ✓     |
|                | $E_{min}$ | 0.61 lx    | $\geq 0.60$ lx   | ✓     |

## Results for energy efficiency indicators

|  | Symbol | Calculated                | Energy Consumption |
|--|--------|---------------------------|--------------------|
| Street 2   | $D_p$  | 0.019 W/lx*m <sup>2</sup> | -                  |
| Micro Martin 32 W 16 LED<br>(single side bottom) | $D_e$  | 0.3 kWh/m <sup>2</sup> yr | 128.0 kWh/yr       |