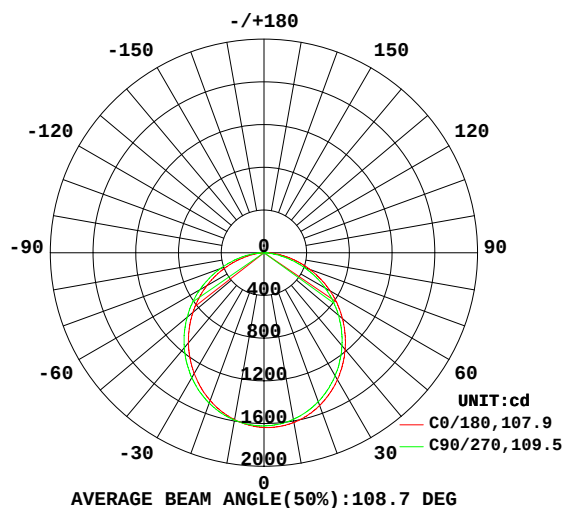


## LUMINAIRE PHOTOMETRIC TEST REPORT

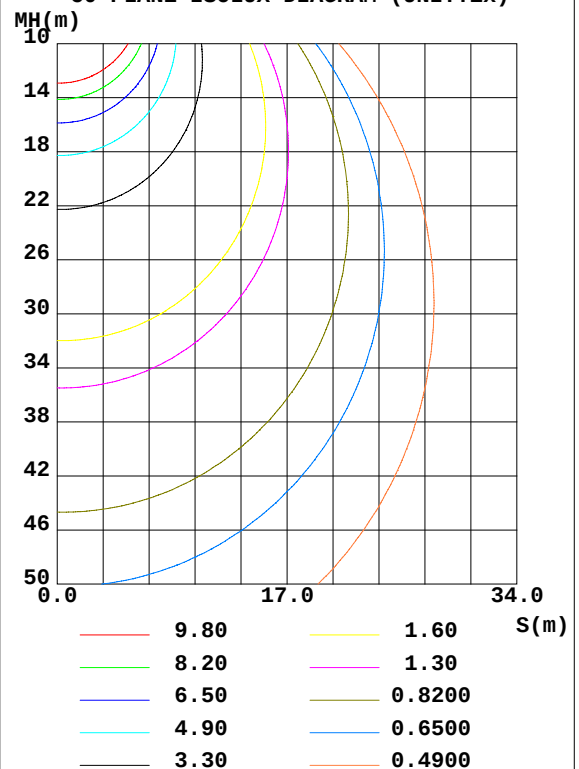
|                                                                                     |                     |                      |
|-------------------------------------------------------------------------------------|---------------------|----------------------|
| Test:U:219.90V I:0.1750A P:37.640W PF:0.9760 Freq:50.00Hz<br>Lamp Flux:4473.71x1 lm |                     |                      |
| NAME: MQG-LED-220A                                                                  | TYPE: LED 4000K     | WEIGHT: N/A          |
| SPEC.: MQG-LED-220A                                                                 | DIM.: 1195*295*70MM | SERIAL No.: 370      |
| MFR.:                                                                               | SUR.: 1.105*0.16    | Shielding Angle: N/A |

| DATA OF LAMP     |                  | PHOTOMETRIC DATA Eff: 118.86 lm/W |        |                    |           |
|------------------|------------------|-----------------------------------|--------|--------------------|-----------|
| MODEL            | 4.72.S2835.4000K | I <sub>max</sub> (cd)             | 1637   | S/MH(C0/180)       | 1.20      |
| NOMINAL POWER(W) | 37.64            | LOR(%)                            | 100.0  | S/MH(C90/270)      | 1.24      |
| RATED VOLTAGE(V) | 220              | TOTAL FLUX(lm)                    | 4473.7 | η UP, DN(C0-180)   | 0.1, 49.4 |
| NOMINAL FLUX(lm) | 4473.71          | CIE CLASS                         | DIRECT | η UP, DN(C180-360) | 0.1, 50.3 |
| LAMPS INSIDE     | 1                | η up(%)                           | 0.2    | CIBSE SHR NOM      | 1.25      |
| TEST VOLTAGE(V)  | 220.1            | η down(%)                         | 99.8   | CIBSE SHR MAX      | 1.35      |

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



C0 PLANE ISOLUX DIAGRAM (UNIT: lx)



C Range: 0 - 360DEG  
C Interval: 30.0DEG  
Test Speed: HIGH  
Temperature: 25.3DEG  
Operators: WEIJIE  
Test Date: 2023-12-04

γ Range: 0 - 180DEG  
γ Interval: 0.5DEG  
Test System: EVERFINE G0-2000A\_V1 SYSTEM V2.00.446  
Humidity: 65.0%  
Test Distance: 8.600m [K=1.0000]  
Remarks:

## ZONAL FLUX DIAGRAM

### ZONAL FLUX DIAGRAM:

| γ   | C0                    | C45    | C90    | C135   | C180   | C225   | C270   | C315   | γ       | Φ zone  | Φ total | %lum, lamp |
|-----|-----------------------|--------|--------|--------|--------|--------|--------|--------|---------|---------|---------|------------|
| 10  | 1614                  | 1608   | 1584   | 1564   | 1587   | 1578   | 1592   | 1615   | 0- 10   | 153.6   | 153.6   | 3.43, 3.43 |
| 20  | 1523                  | 1523   | 1484   | 1443   | 1473   | 1465   | 1499   | 1539   | 10- 20  | 437.2   | 590.8   | 13.2, 13.2 |
| 30  | 1374                  | 1380   | 1331   | 1272   | 1307   | 1301   | 1352   | 1405   | 20- 30  | 655.3   | 1246    | 27.9, 27.9 |
| 40  | 1183                  | 1192   | 1135   | 1064   | 1101   | 1098   | 1162   | 1223   | 30- 40  | 779.6   | 2026    | 45.3, 45.3 |
| 50  | 959.6                 | 973.0  | 911.6  | 831.1  | 868.8  | 867.0  | 939.2  | 1006   | 40- 50  | 798.4   | 2824    | 63.1, 63.1 |
| 60  | 714.7                 | 729.2  | 663.7  | 578.2  | 619.8  | 617.5  | 694.8  | 767.4  | 50- 60  | 713.4   | 3538    | 79.1, 79.1 |
| 70  | 458.2                 | 471.6  | 399.1  | 318.6  | 359.8  | 359.4  | 436.2  | 511.6  | 60- 70  | 538.4   | 4076    | 91.1, 91.1 |
| 80  | 208.2                 | 216.0  | 145.4  | 85.64  | 123.8  | 122.3  | 186.7  | 256.0  | 70- 80  | 304.0   | 4380    | 97.9, 97.9 |
| 90  | 17.52                 | 21.21  | 0.3563 | 0.4414 | 0.3424 | 0.3583 | 0.9029 | 42.50  | 80- 90  | 82.99   | 4463    | 99.8, 99.8 |
| 100 | 0.5633                | 0.5755 | 0.7770 | 0.7629 | 0.6938 | 0.6172 | 0.5036 | 0.4440 | 90-100  | 2.244   | 4465    | 99.8, 99.8 |
| 110 | 0.9381                | 0.9408 | 1.138  | 1.170  | 1.082  | 0.9987 | 0.9104 | 0.8068 | 100-110 | 0.8420  | 4466    | 99.8, 99.8 |
| 120 | 1.336                 | 1.341  | 1.581  | 1.551  | 1.485  | 1.366  | 1.331  | 1.230  | 110-120 | 1.182   | 4467    | 99.9, 99.9 |
| 130 | 1.696                 | 1.711  | 1.905  | 1.858  | 1.813  | 1.692  | 1.701  | 1.651  | 120-130 | 1.409   | 4469    | 99.9, 99.9 |
| 140 | 1.997                 | 2.044  | 2.219  | 2.120  | 2.118  | 1.990  | 2.020  | 2.030  | 130-140 | 1.469   | 4470    | 99.9, 99.9 |
| 150 | 2.358                 | 2.404  | 2.460  | 2.369  | 2.409  | 2.279  | 2.302  | 2.383  | 140-150 | 1.387   | 4471    | 99.9, 99.9 |
| 160 | 2.732                 | 2.712  | 2.700  | 2.656  | 2.793  | 2.603  | 2.607  | 2.712  | 150-160 | 1.167   | 4473    | 100, 100   |
| 170 | 3.019                 | 2.903  | 2.853  | 2.873  | 3.056  | 2.853  | 2.797  | 2.924  | 160-170 | 0.7929  | 4473    | 100, 100   |
| 180 | 3.107                 | 2.933  | 2.903  | 2.968  | 3.107  | 2.943  | 2.950  | 2.987  | 170-180 | 0.2810  | 4474    | 100, 100   |
| DEG | LUMINOUS INTENSITY:cd |        |        |        |        |        |        |        |         | UNIT:lm |         |            |

Conical surface Flux(90deg): 2429.3 lm

%lum = 54.3%

%lamp = 54.3%

Conical surface Flux(120deg): 3537.6 lm

%lum = 79.1%

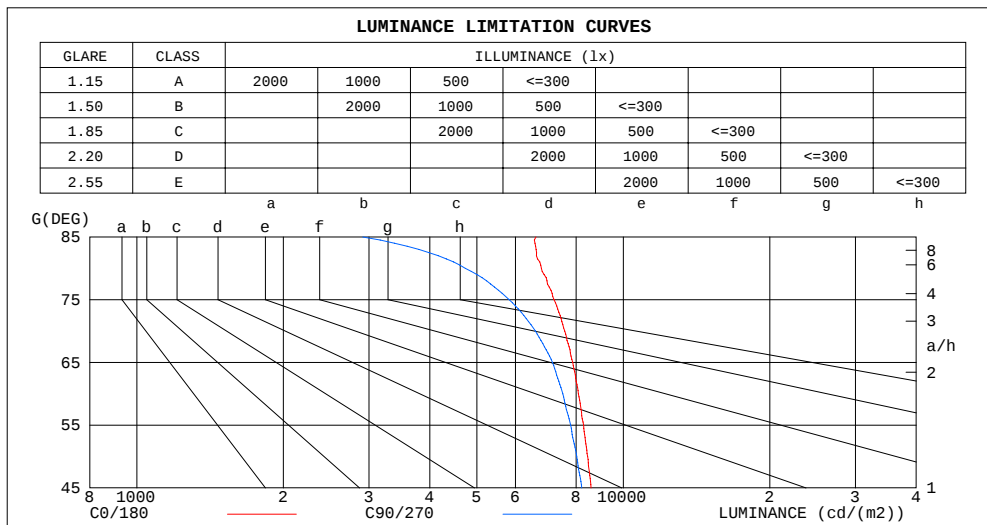
%lamp = 79.1%

C Range: 0 - 360DEG  
 C Interval: 30.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:WEIJIE  
 Test Date:2023-12-04

γ Range: 0 - 180DEG  
 γ Interval: 0.5DEG  
 Test System:EVERFINE G0-2000A\_V1 SYSTEM V2.00.446  
 Humidity:65.0%  
 Test Distance:8.600m [K=1.0000]  
 Remarks:

## LUMINANCE LIMITATION CURVES

|                                                                                     |                     |                      |
|-------------------------------------------------------------------------------------|---------------------|----------------------|
| Test:U:219.90V I:0.1750A P:37.640W PF:0.9760 Freq:50.00Hz<br>Lamp Flux:4473.71x1 lm |                     |                      |
| NAME: MQG-LED-220A                                                                  | TYPE: LED 4000K     | WEIGHT: N/A          |
| SPEC.: MQG-LED-220A                                                                 | DIM.: 1195*295*70MM | SERIAL No.: 370      |
| MFR.:                                                                               | SUR.: 1.105*0.16    | Shielding Angle: N/A |



| LUMINANCE cd/(m2) |        |         |
|-------------------|--------|---------|
| G(DEG)            | C0/180 | C90/270 |
| 85                | 6612   | 2913    |
| 80                | 6783   | 4734    |
| 75                | 7205   | 5826    |
| 70                | 7578   | 6600    |
| 65                | 7869   | 7150    |
| 60                | 8084   | 7508    |
| 55                | 8286   | 7792    |
| 50                | 8443   | 8021    |
| 45                | 8585   | 8213    |

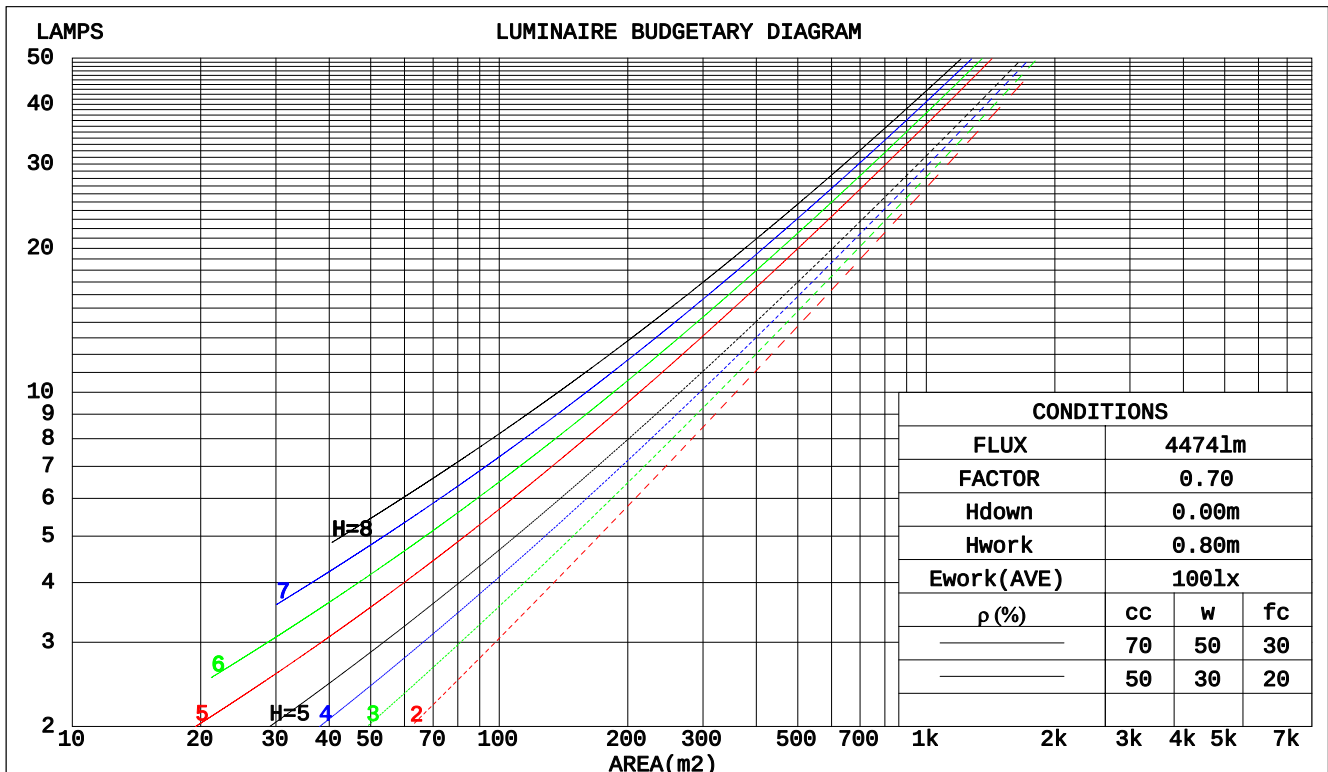
C Range: 0 - 360DEG  
C Interval: 30.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:WEIJIE  
Test Date:2023-12-04

γ Range: 0 - 180DEG  
γ Interval: 0.5DEG  
Test System:EVERFINE G0-2000A\_V1 SYSTEM V2.00.446  
Humidity:65.0%  
Test Distance:8.600m [K=1.0000]  
Remarks:

## CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

|                                                                                     |                     |                      |
|-------------------------------------------------------------------------------------|---------------------|----------------------|
| Test:U:219.90V I:0.1750A P:37.640W PF:0.9760 Freq:50.00Hz<br>Lamp Flux:4473.71x1 lm |                     |                      |
| NAME: MQG-LED-220A                                                                  | TYPE: LED 4000K     | WEIGHT: N/A          |
| SPEC.: MQG-LED-220A                                                                 | DIM.: 1195*295*70MM | SERIAL No.: 370      |
| MFR.:                                                                               | SUR.: 1.105*0.16    | Shielding Angle: N/A |

| $\rho_{CC}$ | 80%                   |      |      | 70%  |      |      | 50%                             |      |      | 30%  |      |      | 10%  |      |      | 0   |
|-------------|-----------------------|------|------|------|------|------|---------------------------------|------|------|------|------|------|------|------|------|-----|
| $\rho_W$    | 50%                   | 30%  | 10%  | 50%  | 30%  | 10%  | 50%                             | 30%  | 10%  | 50%  | 30%  | 10%  | 50%  | 30%  | 10%  | 0   |
| $\rho_{fc}$ | 20%                   |      |      | 20%  |      |      | 20%                             |      |      | 20%  |      |      | 20%  |      |      | 0   |
| RCR         | RCR:Room Cavity Ratio |      |      |      |      |      | Coefficients of Utilization(CU) |      |      |      |      |      |      |      |      |     |
| 0.0         | 1.19                  | 1.19 | 1.19 | 1.16 | 1.16 | 1.16 | 1.11                            | 1.11 | 1.11 | 1.06 | 1.06 | 1.06 | 1.02 | 1.02 | 1.02 | .00 |
| 1.0         | 1.04                  | .00  | .96  | 1.02 | .98  | .94  | .97                             | .94  | .91  | .93  | .91  | .88  | .90  | .88  | .86  | .84 |
| 2.0         | .91                   | .84  | .78  | .89  | .82  | .77  | .85                             | .80  | .75  | .82  | .77  | .74  | .79  | .75  | .72  | .70 |
| 3.0         | .80                   | .71  | .65  | .78  | .70  | .64  | .75                             | .69  | .63  | .72  | .67  | .62  | .70  | .65  | .61  | .59 |
| 4.0         | .71                   | .62  | .55  | .69  | .61  | .55  | .67                             | .60  | .54  | .64  | .58  | .53  | .62  | .57  | .52  | .50 |
| 5.0         | .63                   | .54  | .47  | .62  | .53  | .47  | .60                             | .52  | .47  | .58  | .51  | .46  | .56  | .50  | .46  | .43 |
| 6.0         | .57                   | .48  | .41  | .56  | .47  | .41  | .54                             | .46  | .41  | .52  | .46  | .40  | .51  | .45  | .40  | .38 |
| 7.0         | .52                   | .43  | .37  | .51  | .42  | .36  | .49                             | .42  | .36  | .48  | .41  | .36  | .46  | .40  | .36  | .34 |
| 8.0         | .47                   | .39  | .33  | .46  | .38  | .33  | .45                             | .38  | .32  | .44  | .37  | .32  | .43  | .36  | .32  | .30 |
| 9.0         | .43                   | .35  | .29  | .43  | .35  | .29  | .41                             | .34  | .29  | .40  | .34  | .29  | .39  | .33  | .29  | .27 |
| 10.0        | .40                   | .32  | .27  | .39  | .32  | .27  | .38                             | .31  | .26  | .37  | .31  | .26  | .36  | .31  | .26  | .24 |



C Range: 0 - 360DEG  
 C Interval: 30.0DEG  
 Test Speed: HIGH  
 Temperature: 25.3DEG  
 Operators: WEIJIE  
 Test Date: 2023-12-04

$\gamma$  Range: 0 - 180DEG  
 $\gamma$  Interval: 0.5DEG  
 Test System: EVERFINE G0-2000A\_V1 SYSTEM V2.00.446  
 Humidity: 65.0%  
 Test Distance: 8.600m [K=1.0000]  
 Remarks:

### WEC AND CCEC

|                                                                                     |  |                     |  |                      |  |
|-------------------------------------------------------------------------------------|--|---------------------|--|----------------------|--|
| Test:U:219.90V I:0.1750A P:37.640W PF:0.9760 Freq:50.00Hz<br>Lamp Flux:4473.71x1 lm |  |                     |  |                      |  |
| NAME: MQG-LED-220A                                                                  |  | TYPE: LED 4000K     |  | WEIGHT: N/A          |  |
| SPEC.: MQG-LED-220A                                                                 |  | DIM.: 1195*295*70MM |  | SERIAL No.: 370      |  |
| MFR.:                                                                               |  | SUR.: 1.105*0.16    |  | Shielding Angle: N/A |  |

| $\rho_{CC}$ | 80%                   |      |      | 70%  |      |      | 50%                             |      |      | 30%  |      |      | 10%  |      |      | 0 |  |  |
|-------------|-----------------------|------|------|------|------|------|---------------------------------|------|------|------|------|------|------|------|------|---|--|--|
| $\rho_W$    | 50%                   | 30%  | 10%  | 50%  | 30%  | 10%  | 50%                             | 30%  | 10%  | 50%  | 30%  | 10%  | 50%  | 30%  | 10%  | 0 |  |  |
| $\rho_{fc}$ | 20%                   |      |      | 20%  |      |      | 20%                             |      |      | 20%  |      |      | 20%  |      |      | 0 |  |  |
| RCR         | RCR:Room Cavity Ratio |      |      |      |      |      | Wall Exitance Coefficients(WEC) |      |      |      |      |      |      |      |      |   |  |  |
| 0.0         |                       |      |      |      |      |      |                                 |      |      |      |      |      |      |      |      |   |  |  |
| 1.0         | .307                  | .175 | .055 | .300 | .171 | .054 | .287                            | .164 | .053 | .274 | .158 | .051 | .263 | .152 | .049 |   |  |  |
| 2.0         | .289                  | .159 | .049 | .283 | .156 | .048 | .271                            | .151 | .047 | .260 | .146 | .046 | .250 | .142 | .045 |   |  |  |
| 3.0         | .268                  | .143 | .043 | .262 | .141 | .042 | .252                            | .137 | .041 | .242 | .133 | .041 | .233 | .129 | .040 |   |  |  |
| 4.0         | .247                  | .129 | .038 | .243 | .127 | .038 | .233                            | .124 | .037 | .225 | .121 | .036 | .217 | .118 | .036 |   |  |  |
| 5.0         | .229                  | .117 | .034 | .225 | .115 | .034 | .216                            | .113 | .033 | .209 | .110 | .033 | .201 | .108 | .032 |   |  |  |
| 6.0         | .212                  | .106 | .030 | .208 | .105 | .030 | .201                            | .103 | .030 | .194 | .101 | .030 | .188 | .099 | .029 |   |  |  |
| 7.0         | .198                  | .098 | .028 | .194 | .097 | .028 | .188                            | .095 | .027 | .182 | .093 | .027 | .176 | .091 | .027 |   |  |  |
| 8.0         | .185                  | .090 | .025 | .182 | .089 | .025 | .176                            | .088 | .025 | .170 | .086 | .025 | .165 | .085 | .025 |   |  |  |
| 9.0         | .173                  | .084 | .023 | .170 | .083 | .023 | .165                            | .082 | .023 | .160 | .080 | .023 | .155 | .079 | .023 |   |  |  |
| 10.0        | .163                  | .078 | .022 | .160 | .077 | .022 | .156                            | .076 | .021 | .151 | .075 | .021 | .147 | .074 | .021 |   |  |  |

| ρ <sub>CC</sub> | 80%                   |      |      | 70%  |      |      | 50%                                        |      |      | 30%  |      |      | 10%  |      |      | 0 |
|-----------------|-----------------------|------|------|------|------|------|--------------------------------------------|------|------|------|------|------|------|------|------|---|
| ρ <sub>W</sub>  | 50%                   | 30%  | 10%  | 50%  | 30%  | 10%  | 50%                                        | 30%  | 10%  | 50%  | 30%  | 10%  | 50%  | 30%  | 10%  | 0 |
| ρ <sub>fc</sub> | 20%                   |      |      | 20%  |      |      | 20%                                        |      |      | 20%  |      |      | 20%  |      |      | 0 |
| RCR             | RCR:Room Cavity Ratio |      |      |      |      |      | Ceiling Cavity Exitance Coefficients(CCEC) |      |      |      |      |      |      |      |      |   |
| 0.0             | .192                  | .192 | .192 | .164 | .164 | .164 | .112                                       | .112 | .112 | .064 | .064 | .064 | .021 | .021 | .021 |   |
| 1.0             | .182                  | .158 | .136 | .156 | .136 | .117 | .106                                       | .093 | .081 | .061 | .054 | .047 | .020 | .017 | .015 |   |
| 2.0             | .174                  | .134 | .100 | .149 | .115 | .087 | .102                                       | .080 | .060 | .059 | .046 | .035 | .019 | .015 | .012 |   |
| 3.0             | .166                  | .116 | .076 | .142 | .100 | .066 | .098                                       | .070 | .047 | .056 | .041 | .027 | .018 | .013 | .009 |   |
| 4.0             | .158                  | .103 | .060 | .136 | .089 | .053 | .093                                       | .062 | .037 | .054 | .036 | .022 | .017 | .012 | .007 |   |
| 5.0             | .151                  | .092 | .049 | .130 | .080 | .043 | .089                                       | .056 | .030 | .052 | .033 | .018 | .017 | .011 | .006 |   |
| 6.0             | .144                  | .084 | .041 | .124 | .073 | .036 | .085                                       | .051 | .025 | .049 | .030 | .015 | .016 | .010 | .005 |   |
| 7.0             | .137                  | .077 | .035 | .118 | .067 | .031 | .081                                       | .047 | .022 | .047 | .028 | .013 | .015 | .009 | .004 |   |
| 8.0             | .130                  | .071 | .031 | .112 | .062 | .027 | .078                                       | .043 | .019 | .045 | .026 | .011 | .015 | .008 | .004 |   |
| 9.0             | .124                  | .066 | .027 | .107 | .058 | .024 | .074                                       | .040 | .017 | .043 | .024 | .010 | .014 | .008 | .003 |   |
| 10.0            | .119                  | .062 | .024 | .102 | .054 | .021 | .071                                       | .038 | .015 | .041 | .022 | .009 | .013 | .007 | .003 |   |

C Range: 0 - 360DEG  
C Interval: 30.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:WEIJIE  
Test Date:2023-12-04

$\gamma$  Range: 0 - 180DEG  
 $\gamma$  Interval: 0.5DEG  
Test System:EVERFINE G0-2000A\_V1 SYSTEM V2.00.446  
Humidity:65.0%  
Test Distance:8.600m [K=1.0000]  
Remarks:

### UGR(Unified Glare Rating) Table

|                                                                                     |                  |      |      |      |                     |                |      |                      |      |      |
|-------------------------------------------------------------------------------------|------------------|------|------|------|---------------------|----------------|------|----------------------|------|------|
| Test:U:219.90V I:0.1750A P:37.640W PF:0.9760 Freq:50.00Hz<br>Lamp Flux:4473.71x1 lm |                  |      |      |      |                     |                |      |                      |      |      |
| NAME: MQG-LED-220A                                                                  |                  |      |      |      | TYPE: LED 4000K     |                |      | WEIGHT: N/A          |      |      |
| SPEC.: MQG-LED-220A                                                                 |                  |      |      |      | DIM.: 1195*295*70MM |                |      | SERIAL No.: 370      |      |      |
| MFR.:                                                                               |                  |      |      |      | SUR.: 1.105*0.16    |                |      | Shielding Angle: N/A |      |      |
| ceiling/cavity                                                                      | 0.7              | 0.7  | 0.5  | 0.5  | 0.3                 | 0.7            | 0.7  | 0.5                  | 0.5  | 0.3  |
| walls                                                                               | 0.5              | 0.3  | 0.5  | 0.3  | 0.3                 | 0.5            | 0.3  | 0.5                  | 0.3  | 0.3  |
| working plane                                                                       | 0.2              | 0.2  | 0.2  | 0.2  | 0.2                 | 0.2            | 0.2  | 0.2                  | 0.2  | 0.2  |
| Room dimensions                                                                     | Viewed crosswise |      |      |      |                     | Viewed endwise |      |                      |      |      |
| x = 2H y = 2H                                                                       | 20.5             | 22.0 | 20.7 | 22.2 | 22.4                | 20.2           | 21.7 | 20.5                 | 21.9 | 22.1 |
| 3H                                                                                  | 22.1             | 23.5 | 22.4 | 23.7 | 23.9                | 21.6           | 23.0 | 21.9                 | 23.3 | 23.5 |
| 4H                                                                                  | 22.7             | 24.1 | 23.0 | 24.3 | 24.6                | 22.2           | 23.5 | 22.5                 | 23.8 | 24.0 |
| 6H                                                                                  | 23.2             | 24.5 | 23.6 | 24.8 | 25.0                | 22.5           | 23.8 | 22.8                 | 24.0 | 24.3 |
| 8H                                                                                  | 23.4             | 24.6 | 23.8 | 24.9 | 25.2                | 22.6           | 23.8 | 22.9                 | 24.1 | 24.4 |
| 12H                                                                                 | 23.5             | 24.7 | 23.9 | 25.0 | 25.3                | 22.6           | 23.8 | 23.0                 | 24.1 | 24.4 |
| 4H 2H                                                                               | 21.1             | 22.4 | 21.4 | 22.7 | 23.0                | 20.9           | 22.2 | 21.2                 | 22.5 | 22.7 |
| 3H                                                                                  | 22.9             | 24.1 | 23.3 | 24.4 | 24.7                | 22.6           | 23.7 | 22.9                 | 24.0 | 24.3 |
| 4H                                                                                  | 23.7             | 24.8 | 24.1 | 25.1 | 25.5                | 23.2           | 24.3 | 23.6                 | 24.6 | 25.0 |
| 6H                                                                                  | 24.4             | 25.3 | 24.8 | 25.7 | 26.0                | 23.7           | 24.6 | 24.1                 | 25.0 | 25.4 |
| 8H                                                                                  | 24.6             | 25.5 | 25.0 | 25.9 | 26.3                | 23.8           | 24.7 | 24.2                 | 25.1 | 25.5 |
| 12H                                                                                 | 24.8             | 25.6 | 25.2 | 26.0 | 26.4                | 23.9           | 24.7 | 24.3                 | 25.1 | 25.5 |
| 8H 4H                                                                               | 24.0             | 24.9 | 24.4 | 25.3 | 25.7                | 23.6           | 24.5 | 24.0                 | 24.8 | 25.2 |
| 6H                                                                                  | 24.9             | 25.6 | 25.3 | 26.0 | 26.4                | 24.2           | 25.0 | 24.7                 | 25.4 | 25.8 |
| 8H                                                                                  | 25.2             | 25.9 | 25.7 | 26.3 | 26.8                | 24.5           | 25.1 | 24.9                 | 25.5 | 26.0 |
| 12H                                                                                 | 25.5             | 26.1 | 26.0 | 26.5 | 27.0                | 24.6           | 25.1 | 25.1                 | 25.6 | 26.1 |
| 12H 4H                                                                              | 24.0             | 24.9 | 24.5 | 25.2 | 25.7                | 23.6           | 24.4 | 24.1                 | 24.8 | 25.2 |
| 6H                                                                                  | 24.9             | 25.6 | 25.4 | 26.0 | 26.5                | 24.3           | 25.0 | 24.8                 | 25.4 | 25.9 |
| 8H                                                                                  | 25.4             | 25.9 | 25.8 | 26.4 | 26.8                | 24.6           | 25.2 | 25.1                 | 25.6 | 26.1 |
| Variations with the observer position at spacings(CIE Pub.117):                     |                  |      |      |      |                     |                |      |                      |      |      |
| S = 1.0H                                                                            | + 0.1 / - 0.2    |      |      |      |                     | + 0.2 / - 0.2  |      |                      |      |      |
| 1.5H                                                                                | + 0.2 / - 0.3    |      |      |      |                     | + 0.2 / - 0.4  |      |                      |      |      |
| 2.0H                                                                                | + 0.1 / - 0.3    |      |      |      |                     | + 0.2 / - 0.4  |      |                      |      |      |

CIE Pub.117, 4474 lm Total Lamp Luminous Flux Corrected ( $8\log(F/F_0) = 5.2$ )  
Area: 0.1768 m<sup>2</sup>

C Range: 0 - 360DEG  
C Interval: 30.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:WEIJIE  
Test Date:2023-12-04

$\gamma$  Range: 0 - 180DEG  
 $\gamma$  Interval: 0.5DEG  
 $\gamma$  Test System:EVERFINE G0-2000A\_V1 SYSTEM V2.00.446  
Humidity:65.0%  
Test Distance:8.600m [K=1.0000]  
Remarks:

### UTILIZATION FACTORS TABLE

|                                                                                     |                     |                      |
|-------------------------------------------------------------------------------------|---------------------|----------------------|
| Test:U:219.90V I:0.1750A P:37.640W PF:0.9760 Freq:50.00Hz<br>Lamp Flux:4473.71x1 lm |                     |                      |
| NAME: MQG-LED-220A                                                                  | TYPE: LED 4000K     | WEIGHT: N/A          |
| SPEC.: MQG-LED-220A                                                                 | DIM.: 1195*295*70MM | SERIAL No.: 370      |
| MFR.:                                                                               | SUR.: 1.105*0.16    | Shielding Angle: N/A |

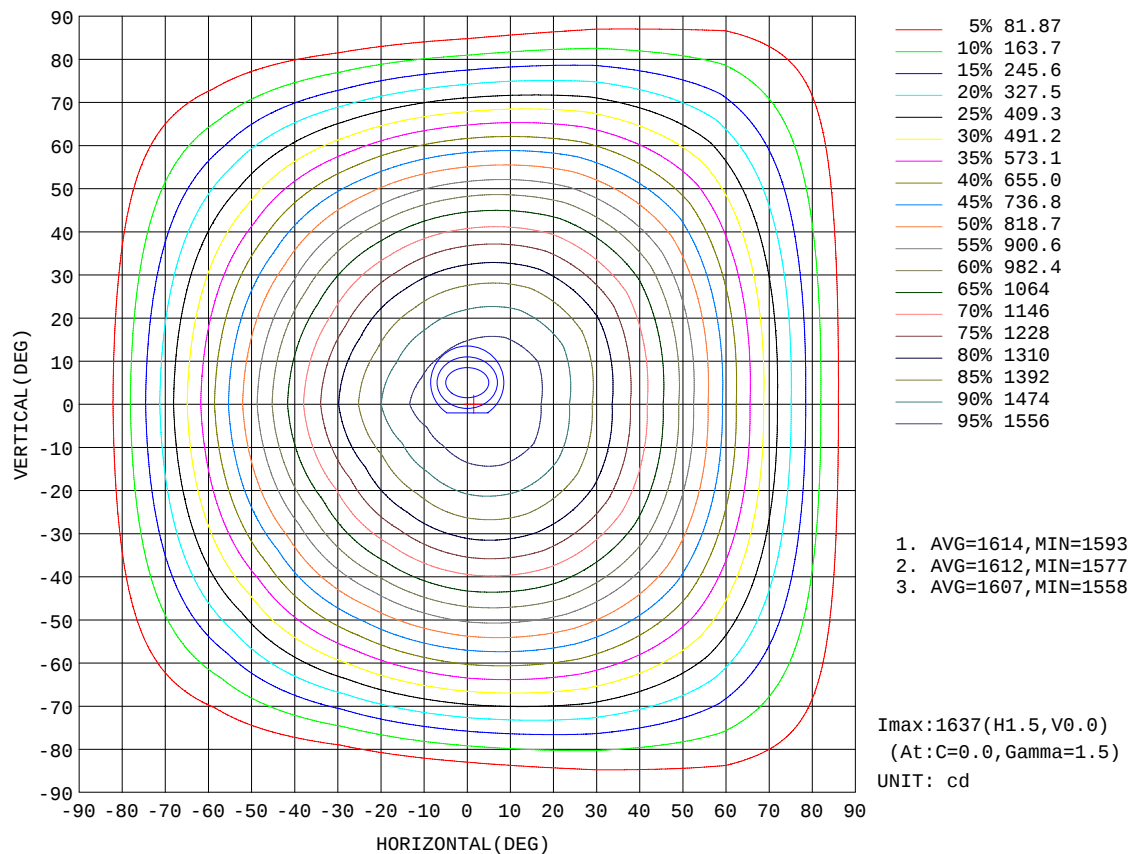
| REFLECTANCE                      |                                                     |     |           |     |     |     |     |               |     |        |
|----------------------------------|-----------------------------------------------------|-----|-----------|-----|-----|-----|-----|---------------|-----|--------|
| Ceiling                          | 0.8                                                 | 0.8 | 0.8       | 0.7 | 0.7 | 0.7 | 0.5 | 0.5           | 0.5 | 0      |
| Walls                            | 0.7                                                 | 0.5 | 0.3       | 0.7 | 0.5 | 0.3 | 0.7 | 0.5           | 0.3 | 0      |
| Working plane                    | 0.2                                                 | 0.2 | 0.2       | 0.2 | 0.2 | 0.2 | 0.2 | 0.2           | 0.2 | 0      |
| ROOM INDEX                       | UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$ |     |           |     |     |     |     |               |     |        |
| $k = 0.60$                       | 58                                                  | 46  | 39        | 57  | 46  | 39  | 56  | 46            | 39  | 33     |
| 0.80                             | 68                                                  | 56  | 49        | 67  | 56  | 49  | 65  | 55            | 48  | 42     |
| 1.00                             | 76                                                  | 65  | 58        | 75  | 65  | 58  | 73  | 66            | 57  | 50     |
| 1.25                             | 83                                                  | 73  | 66        | 82  | 72  | 65  | 79  | 71            | 65  | 57     |
| 1.50                             | 88                                                  | 79  | 72        | 87  | 78  | 71  | 84  | 76            | 70  | 62     |
| 2.00                             | 95                                                  | 87  | 80        | 93  | 85  | 79  | 90  | 83            | 78  | 70     |
| 2.50                             | 99                                                  | 91  | 85        | 97  | 90  | 84  | 93  | 87            | 82  | 74     |
| 3.00                             | 102                                                 | 96  | 90        | 100 | 94  | 89  | 96  | 91            | 87  | 78     |
| 4.00                             | 106                                                 | 101 | 96        | 104 | 99  | 95  | 100 | 95            | 92  | 83     |
| 5.00                             | 109                                                 | 104 | 100       | 106 | 102 | 98  | 102 | 98            | 95  | 86     |
| ROOM INDEX                       | UF(total)                                           |     |           |     |     |     |     |               |     | Direct |
| According to DIN EN 13032-2 2004 |                                                     |     | Suspended |     |     |     |     | SHRNOM = 1.25 |     |        |

C Range: 0 - 360DEG  
C Interval: 30.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:WEIJIE  
Test Date:2023-12-04

$\gamma$  Range: 0 - 180DEG  
 $\gamma$  Interval: 0.5DEG  
Test System:EVERFINE G0-2000A\_V1 SYSTEM V2.00.446  
Humidity:65.0%  
Test Distance:8.600m [K=1.0000]  
Remarks:

## ISOCANDELA DIAGRAM

|                                                                                     |                     |                      |
|-------------------------------------------------------------------------------------|---------------------|----------------------|
| Test:U:219.90V I:0.1750A P:37.640W PF:0.9760 Freq:50.00Hz<br>Lamp Flux:4473.71x1 lm |                     |                      |
| NAME: MQG-LED-220A                                                                  | TYPE: LED 4000K     | WEIGHT: N/A          |
| SPEC.: MQG-LED-220A                                                                 | DIM.: 1195*295*70MM | SERIAL No.: 370      |
| MFR.:                                                                               | SUR.: 1.105*0.16    | Shielding Angle: N/A |

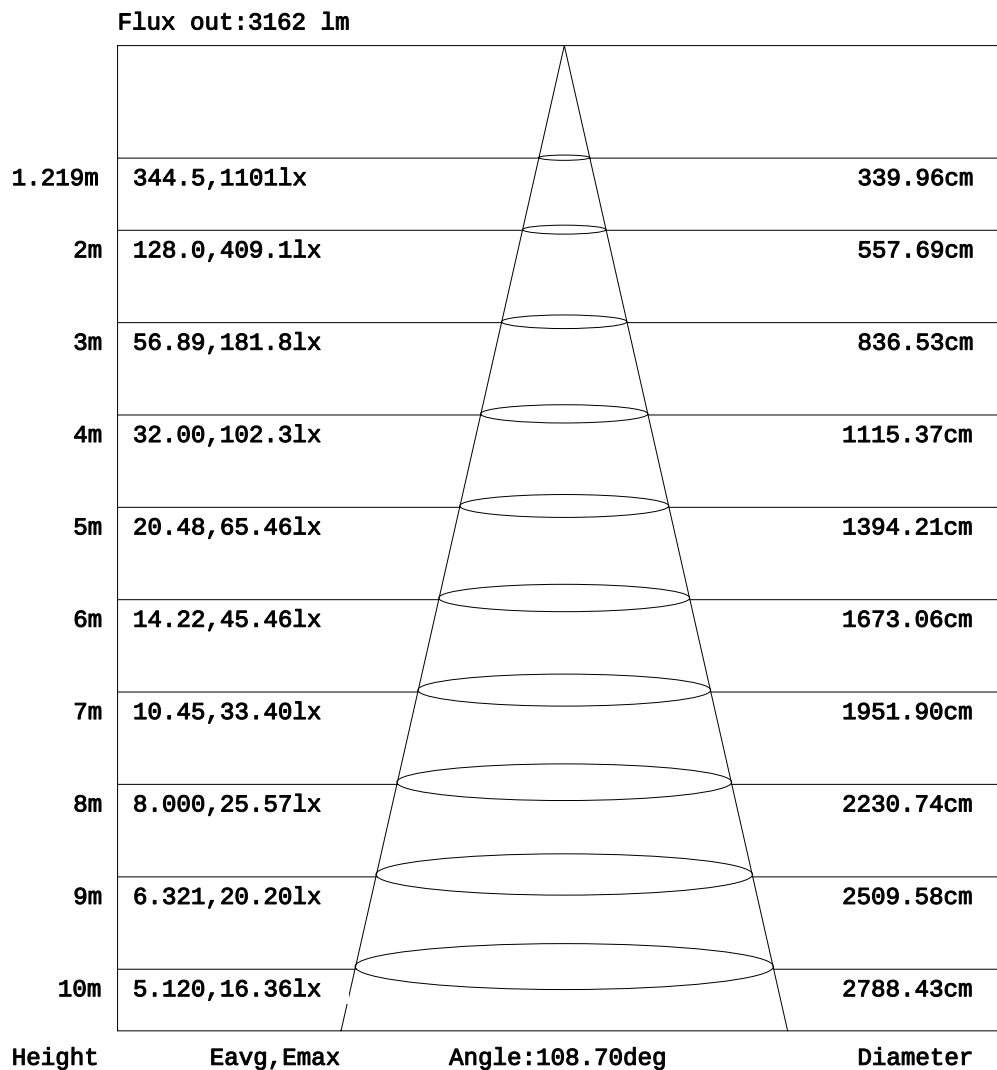


C Range: 0 - 360DEG  
C Interval: 30.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:WEIJIE  
Test Date:2023-12-04

γ Range: 0 - 180DEG  
γ Interval: 0.5DEG  
Test System:EVERFINE G0-2000A\_V1 SYSTEM V2.00.446  
Humidity:65.0%  
Test Distance:8.600m [K=1.0000]  
Remarks:

### AAI Figure

|                                                                                     |                     |                      |
|-------------------------------------------------------------------------------------|---------------------|----------------------|
| Test:U:219.90V I:0.1750A P:37.640W PF:0.9760 Freq:50.00Hz<br>Lamp Flux:4473.71x1 lm |                     |                      |
| NAME: MQG-LED-220A                                                                  | TYPE: LED 4000K     | WEIGHT: N/A          |
| SPEC.: MQG-LED-220A                                                                 | DIM.: 1195*295*70MM | SERIAL No.: 370      |
| MFR.:                                                                               | SUR.: 1.105*0.16    | Shielding Angle: N/A |



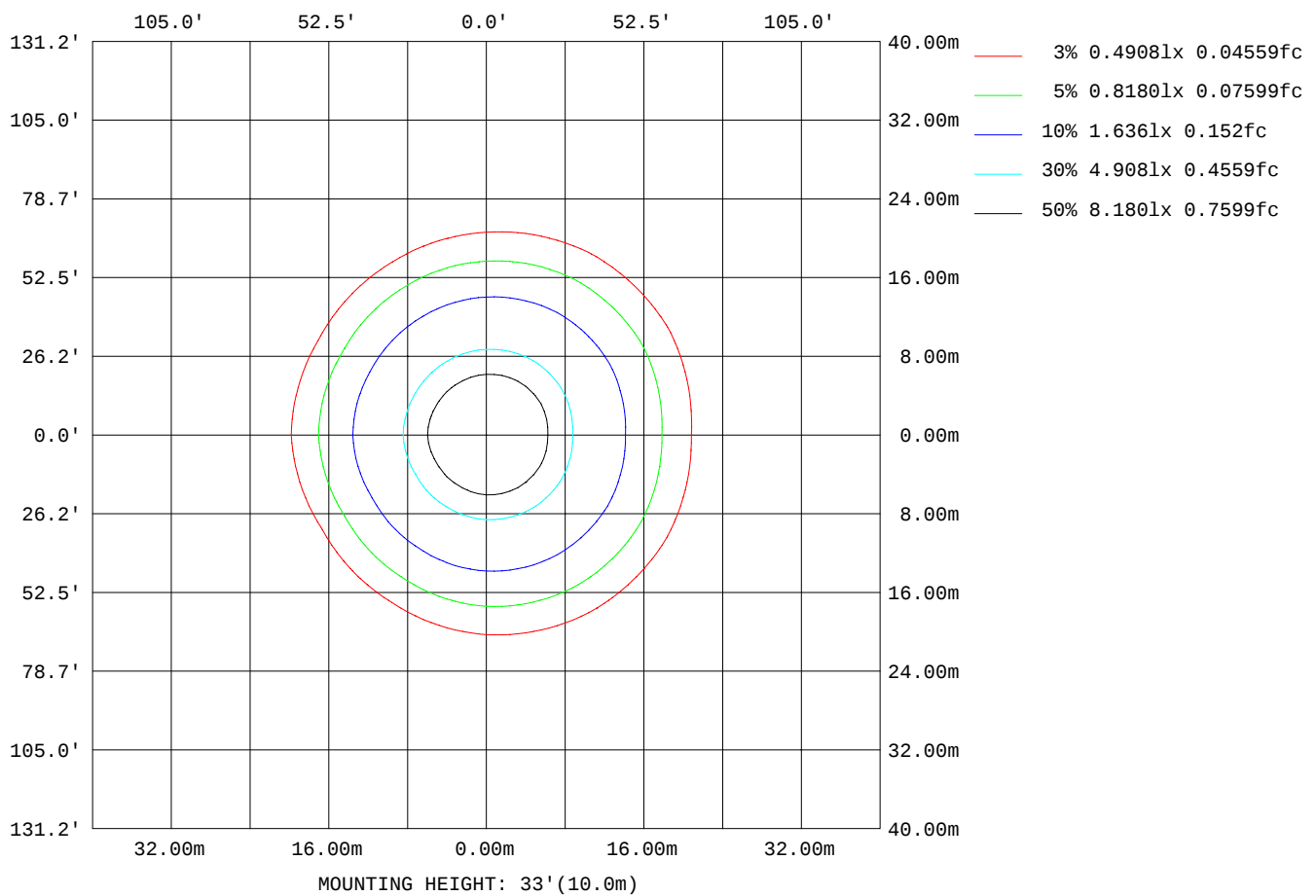
Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG  
C Interval: 30.0DEG  
Test Speed: HIGH  
Temperature: 25.3DEG  
Operators: WEIJIE  
Test Date: 2023-12-04

γ Range: 0 - 180DEG  
γ Interval: 0.5DEG  
Test System: EVERFINE G0-2000A\_V1 SYSTEM V2.00.446  
Humidity: 65.0%  
Test Distance: 8.600m [K=1.0000]  
Remarks:

### ISOLUX DIAGRAM

|                                                                                     |                     |                      |
|-------------------------------------------------------------------------------------|---------------------|----------------------|
| Test:U:219.90V I:0.1750A P:37.640W PF:0.9760 Freq:50.00Hz<br>Lamp Flux:4473.71x1 lm |                     |                      |
| NAME: MQG-LED-220A                                                                  | TYPE: LED 4000K     | WEIGHT: N/A          |
| SPEC.: MQG-LED-220A                                                                 | DIM.: 1195*295*70MM | SERIAL No.: 370      |
| MFR.:                                                                               | SUR.: 1.105*0.16    | Shielding Angle: N/A |



C Range: 0 - 360DEG  
C Interval: 30.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:WEIJIE  
Test Date:2023-12-04

γ Range: 0 - 180DEG  
γ Interval: 0.5DEG  
Test System:EVERFINE G0-2000A\_V1 SYSTEM V2.00.446  
Humidity:65.0%  
Test Distance:8.600m [K=1.0000]  
Remarks:

## LED Avg.L Report

|                                                                                     |                     |                      |
|-------------------------------------------------------------------------------------|---------------------|----------------------|
| Test:U:219.90V I:0.1750A P:37.640W PF:0.9760 Freq:50.00Hz<br>Lamp Flux:4473.71x1 lm |                     |                      |
| NAME: MQG-LED-220A                                                                  | TYPE: LED 4000K     | WEIGHT: N/A          |
| SPEC.: MQG-LED-220A                                                                 | DIM.: 1195*295*70MM | SERIAL No.: 370      |
| MFR.:                                                                               | SUR.: 1.105*0.16    | Shielding Angle: N/A |

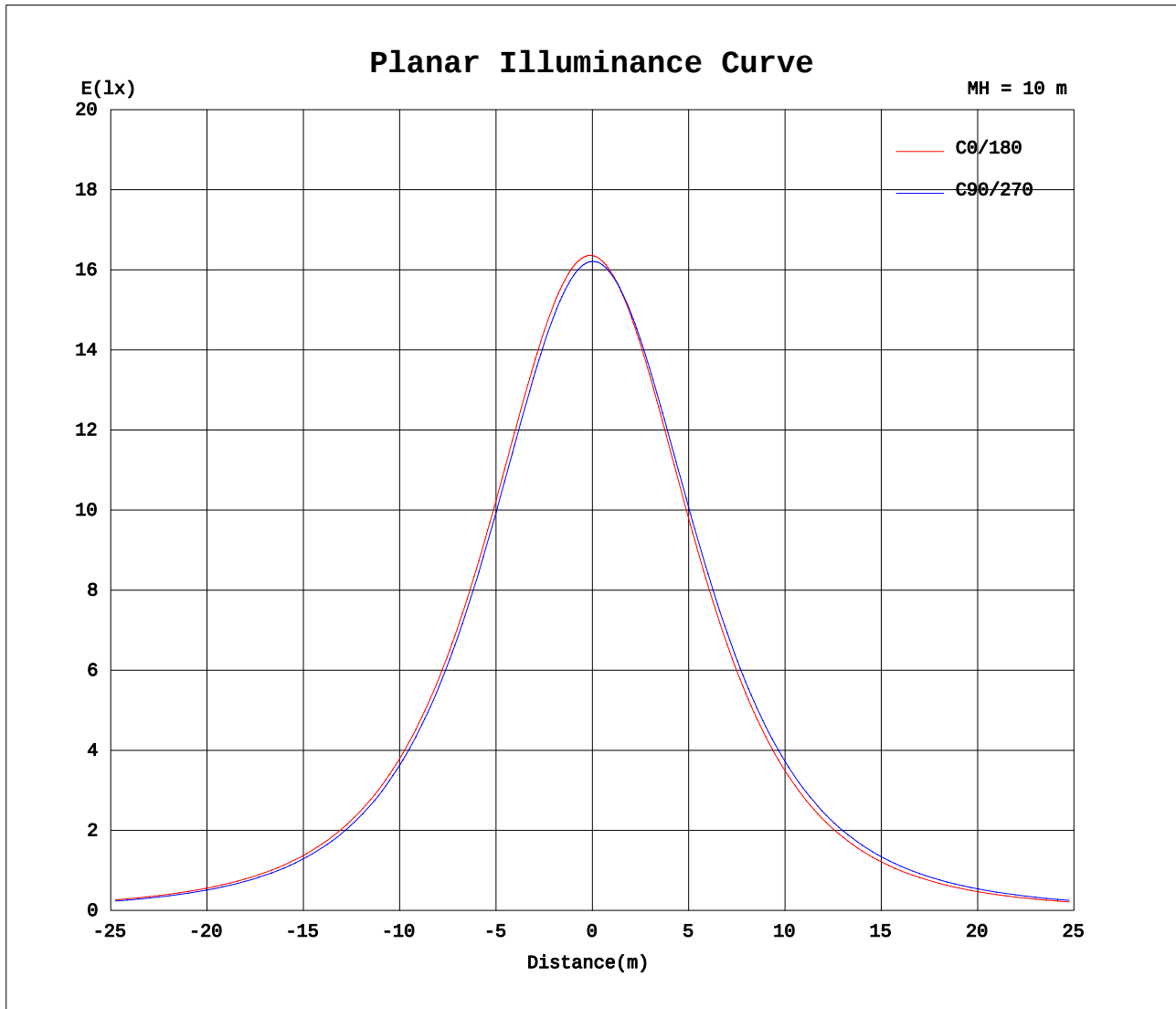
| AvgL           | cd/m2 |
|----------------|-------|
| L_0~180(65)av  | 7207  |
| L_0~180(75)av  | 6173  |
| L_0~180(85)av  | 4389  |
| L_90~270(65)av | 7364  |
| L_90~270(75)av | 6283  |
| L_90~270(85)av | 3951  |
| L_45(65)av     | 7290  |
| L_45(75)av     | 6301  |
| L_45(85)av     | 4670  |

Standard: GB/T 29293-2012

C Range: 0 - 360DEG  
 C Interval: 30.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:WEIJIE  
 Test Date:2023-12-04

γ Range: 0 - 180DEG  
 γ Interval: 0.5DEG  
 Test System:EVERFINE G0-2000A\_V1 SYSTEM V2.00.446  
 Humidity:65.0%  
 Test Distance:8.600m [K=1.0000]  
 Remarks:

## Planar Illuminance Curve



C Range: 0 - 360DEG  
C Interval: 30.0DEG  
Test Speed: HIGH  
Temperature: 25.3DEG  
Operators: WEIJIE  
Test Date: 2023-12-04

$\gamma$  Range: 0 - 180DEG  
 $\gamma$  Interval: 0.5DEG  
Test System: EVERFINE G0-2000A\_V1 SYSTEM V2.00.446  
Humidity: 65.0%  
Test Distance: 8.600m [K=1.0000]  
Remarks:

**LUMINOUS DISTRIBUTION INTENSITY DATA**

|                                                                                     |  |  |  |  |  |  |  |  |                     |  |  |  |  |  |                      |  |  |
|-------------------------------------------------------------------------------------|--|--|--|--|--|--|--|--|---------------------|--|--|--|--|--|----------------------|--|--|
| Test:U:219.90V I:0.1750A P:37.640W PF:0.9760 Freq:50.00Hz<br>Lamp Flux:4473.71x1 lm |  |  |  |  |  |  |  |  |                     |  |  |  |  |  |                      |  |  |
| NAME: MQG-LED-220A                                                                  |  |  |  |  |  |  |  |  | TYPE: LED 4000K     |  |  |  |  |  | WEIGHT: N/A          |  |  |
| SPEC.: MQG-LED-220A                                                                 |  |  |  |  |  |  |  |  | DIM.: 1195*295*70MM |  |  |  |  |  | SERIAL No.: 370      |  |  |
| MFR.:                                                                               |  |  |  |  |  |  |  |  | SUR.: 1.105*0.16    |  |  |  |  |  | Shielding Angle: N/A |  |  |

**Table--1**
**UNIT: cd**

| C (DEG)<br>γ (DEG) | 0    | 30   | 60   | 90   | 120  | 150  | 180  | 210  | 240  | 270  | 300  | 330  |  |  |  |  |  |  |  |
|--------------------|------|------|------|------|------|------|------|------|------|------|------|------|--|--|--|--|--|--|--|
| 0                  | 1636 | 1631 | 1625 | 1621 | 1621 | 1626 | 1636 | 1631 | 1625 | 1621 | 1621 | 1626 |  |  |  |  |  |  |  |
| 5                  | 1633 | 1632 | 1622 | 1611 | 1601 | 1603 | 1620 | 1612 | 1610 | 1614 | 1624 | 1632 |  |  |  |  |  |  |  |
| 10                 | 1614 | 1615 | 1602 | 1584 | 1565 | 1563 | 1587 | 1577 | 1579 | 1592 | 1610 | 1620 |  |  |  |  |  |  |  |
| 15                 | 1576 | 1582 | 1566 | 1541 | 1514 | 1507 | 1538 | 1525 | 1532 | 1553 | 1579 | 1591 |  |  |  |  |  |  |  |
| 20                 | 1523 | 1532 | 1514 | 1484 | 1447 | 1438 | 1473 | 1459 | 1471 | 1499 | 1533 | 1546 |  |  |  |  |  |  |  |
| 25                 | 1454 | 1467 | 1449 | 1414 | 1370 | 1355 | 1395 | 1381 | 1396 | 1432 | 1471 | 1486 |  |  |  |  |  |  |  |
| 30                 | 1374 | 1390 | 1371 | 1331 | 1280 | 1264 | 1307 | 1291 | 1311 | 1352 | 1397 | 1412 |  |  |  |  |  |  |  |
| 35                 | 1282 | 1300 | 1281 | 1237 | 1183 | 1161 | 1208 | 1192 | 1215 | 1262 | 1311 | 1326 |  |  |  |  |  |  |  |
| 40                 | 1183 | 1202 | 1182 | 1135 | 1076 | 1052 | 1101 | 1085 | 1111 | 1162 | 1215 | 1230 |  |  |  |  |  |  |  |
| 45                 | 1073 | 1097 | 1075 | 1027 | 963  | 938  | 988  | 971  | 1000 | 1054 | 1111 | 1125 |  |  |  |  |  |  |  |
| 50                 | 960  | 984  | 962  | 912  | 844  | 818  | 869  | 851  | 883  | 939  | 1000 | 1013 |  |  |  |  |  |  |  |
| 55                 | 840  | 864  | 842  | 790  | 720  | 693  | 746  | 727  | 761  | 820  | 882  | 896  |  |  |  |  |  |  |  |
| 60                 | 715  | 741  | 717  | 664  | 592  | 565  | 620  | 600  | 635  | 695  | 760  | 774  |  |  |  |  |  |  |  |
| 65                 | 588  | 613  | 590  | 534  | 462  | 435  | 489  | 470  | 506  | 566  | 633  | 649  |  |  |  |  |  |  |  |
| 70                 | 458  | 484  | 460  | 399  | 330  | 307  | 360  | 343  | 376  | 436  | 503  | 520  |  |  |  |  |  |  |  |
| 75                 | 330  | 354  | 326  | 267  | 203  | 186  | 235  | 220  | 250  | 308  | 373  | 392  |  |  |  |  |  |  |  |
| 80                 | 208  | 231  | 201  | 145  | 91.1 | 80.2 | 124  | 109  | 136  | 187  | 247  | 265  |  |  |  |  |  |  |  |
| 85                 | 102  | 119  | 90.7 | 44.9 | 12.6 | 6.79 | 33.4 | 21.4 | 38.8 | 76.9 | 131  | 149  |  |  |  |  |  |  |  |
| 90                 | 17.5 | 30.2 | 12.2 | 0.36 | 0.42 | 0.47 | 0.34 | 0.34 | 0.37 | 0.90 | 33.7 | 51.3 |  |  |  |  |  |  |  |
| 95                 | 0.40 | 0.43 | 0.42 | 0.55 | 0.54 | 0.62 | 0.50 | 0.45 | 0.47 | 0.33 | 0.36 | 0.35 |  |  |  |  |  |  |  |
| 100                | 0.56 | 0.58 | 0.57 | 0.78 | 0.73 | 0.80 | 0.69 | 0.61 | 0.62 | 0.50 | 0.48 | 0.41 |  |  |  |  |  |  |  |
| 105                | 0.74 | 0.76 | 0.74 | 0.98 | 0.93 | 1.00 | 0.88 | 0.79 | 0.80 | 0.69 | 0.66 | 0.57 |  |  |  |  |  |  |  |
| 110                | 0.94 | 0.94 | 0.94 | 1.14 | 1.15 | 1.19 | 1.08 | 0.99 | 1.00 | 0.91 | 0.87 | 0.75 |  |  |  |  |  |  |  |
| 115                | 1.14 | 1.13 | 1.16 | 1.36 | 1.34 | 1.39 | 1.29 | 1.17 | 1.20 | 1.12 | 1.09 | 0.95 |  |  |  |  |  |  |  |
| 120                | 1.34 | 1.32 | 1.36 | 1.58 | 1.54 | 1.56 | 1.48 | 1.36 | 1.37 | 1.33 | 1.30 | 1.16 |  |  |  |  |  |  |  |
| 125                | 1.53 | 1.51 | 1.55 | 1.76 | 1.69 | 1.73 | 1.66 | 1.53 | 1.55 | 1.53 | 1.51 | 1.38 |  |  |  |  |  |  |  |
| 130                | 1.70 | 1.69 | 1.73 | 1.91 | 1.84 | 1.87 | 1.81 | 1.68 | 1.70 | 1.70 | 1.70 | 1.60 |  |  |  |  |  |  |  |
| 135                | 1.83 | 1.84 | 1.90 | 2.05 | 1.98 | 2.00 | 1.96 | 1.87 | 1.85 | 1.87 | 1.89 | 1.78 |  |  |  |  |  |  |  |
| 140                | 2.00 | 2.03 | 2.05 | 2.22 | 2.12 | 2.12 | 2.12 | 2.00 | 1.98 | 2.02 | 2.06 | 2.00 |  |  |  |  |  |  |  |
| 145                | 2.16 | 2.22 | 2.23 | 2.34 | 2.24 | 2.25 | 2.29 | 2.13 | 2.12 | 2.17 | 2.23 | 2.18 |  |  |  |  |  |  |  |
| 150                | 2.36 | 2.43 | 2.38 | 2.46 | 2.37 | 2.37 | 2.41 | 2.28 | 2.28 | 2.30 | 2.40 | 2.36 |  |  |  |  |  |  |  |
| 155                | 2.53 | 2.61 | 2.51 | 2.57 | 2.52 | 2.51 | 2.61 | 2.43 | 2.48 | 2.49 | 2.61 | 2.56 |  |  |  |  |  |  |  |
| 160                | 2.73 | 2.77 | 2.65 | 2.70 | 2.65 | 2.66 | 2.79 | 2.60 | 2.61 | 2.61 | 2.70 | 2.72 |  |  |  |  |  |  |  |
| 165                | 2.91 | 2.94 | 2.79 | 2.81 | 2.77 | 2.81 | 2.95 | 2.76 | 2.71 | 2.72 | 2.81 | 2.87 |  |  |  |  |  |  |  |
| 170                | 3.02 | 2.98 | 2.83 | 2.85 | 2.82 | 2.92 | 3.06 | 2.88 | 2.82 | 2.80 | 2.89 | 2.95 |  |  |  |  |  |  |  |
| 175                | 3.10 | 2.98 | 2.88 | 2.90 | 2.89 | 2.99 | 3.11 | 2.96 | 2.92 | 2.89 | 2.96 | 3.02 |  |  |  |  |  |  |  |
| 180                | 3.11 | 2.98 | 2.88 | 2.90 | 2.95 | 2.99 | 3.11 | 2.96 | 2.92 | 2.95 | 2.96 | 3.01 |  |  |  |  |  |  |  |

C Range: 0 - 360DEG  
 C Interval: 30.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:WEIJIE  
 Test Date:2023-12-04

γ Range: 0 - 180DEG  
 γ Interval: 0.5DEG  
 Test System:EVERFINE G0-2000A\_V1 SYSTEM V2.00.446  
 Humidity:65.0%  
 Test Distance:8.600m [K=1.0000]  
 Remarks: