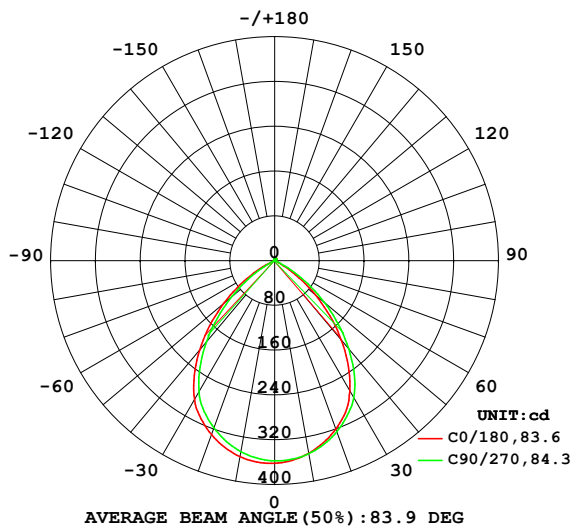


## LUMINAIRE PHOTOMETRIC TEST REPORT

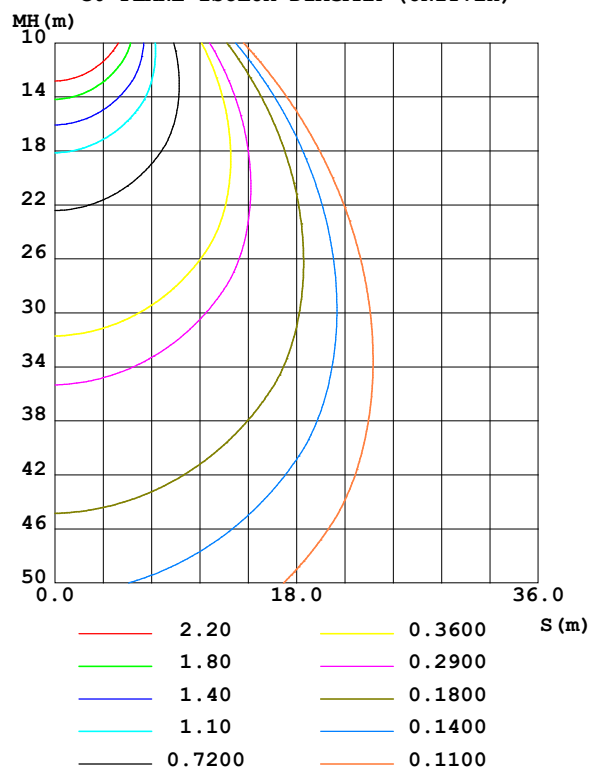
|   |       |                  |
|---|-------|------------------|
| Test:U:230.23V I:0.0456A P:9.8541W PF:0.9380 Freq:50.00Hz<br>Lamp Flux:610.444x1 lm |       |                  |
| NAME: R731 B4K  | TYPE: | WEIGHT:          |
| SPEC.:  | DIM.: | SERIAL No.:      |
| MFR.: EVERFINE  | SUR.: | Shielding Angle: |

| DATA OF LAMP     |         | PHOTOMETRIC DATA Eff: 61.95 lm/W |        |                   |          |
|------------------|---------|----------------------------------|--------|-------------------|----------|
| MODEL            |         | I <sub>max</sub> (cd)            | 362.2  | S/MH(C0/180)      | 1.18     |
| NOMINAL POWER(W) | 9.8     | LOR(%)                           | 100.0  | S/MH(C90/270)     | 1.15     |
| RATED VOLTAGE(V) | 230     | TOTAL FLUX(lm)                   | 610.44 | η UP,DN(C0-180)   | 0.9,50.0 |
| NOMINAL FLUX(lm) | 610.444 | CIE CLASS                        | DIRECT | η UP,DN(C180-360) | 0.9,48.2 |
| LAMPS INSIDE     | 1       | η up (%)                         | 1.8    | CIBSE SHR NOM     | 1.00     |
| TEST VOLTAGE(V)  | 230     | η down (%)                       | 98.2   | CIBSE SHR MAX     | 1.15     |

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



C0 PLANE ISOLUX DIAGRAM (UNIT:lx)



C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: HIGH  
Temperature:25.3℃  
Operators:DAMIN  
Test Date:2023-10-26

γ Range: 0 - 180DEG  
γ Interval: 1.0DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.00.477  
Humidity:65.0%  
Test Distance:12.020m [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  | 349.6                 | 349.3  | 350.2  | 352.8  | 355.6  | 351.1  | 346.6  | 345.8  | 0- 10   | 33.81   | 33.81   | 5.54,5.54  |
| 20  | 320.0                 | 321.7  | 325.1  | 328.5  | 330.6  | 324.6  | 317.8  | 315.7  | 10- 20  | 95.23   | 129.0   | 21.1,21.1  |
| 30  | 268.7                 | 274.4  | 283.4  | 287.0  | 286.7  | 279.8  | 270.8  | 264.9  | 20- 30  | 139.1   | 268.1   | 43.9,43.9  |
| 40  | 185.7                 | 193.6  | 206.4  | 211.8  | 208.7  | 200.4  | 189.6  | 181.9  | 30- 40  | 148.8   | 417.0   | 68.3,68.3  |
| 50  | 94.95                 | 103.2  | 116.1  | 122.2  | 118.8  | 110.5  | 99.56  | 91.39  | 40- 50  | 116.7   | 533.7   | 87.4,87.4  |
| 60  | 18.35                 | 24.54  | 34.68  | 39.39  | 37.18  | 30.84  | 22.40  | 16.77  | 50- 60  | 57.99   | 591.7   | 96.9,96.9  |
| 70  | 0.3661                | 0.4040 | 0.4882 | 0.6004 | 0.5618 | 0.4404 | 0.2909 | 0.2154 | 60- 70  | 7.805   | 599.5   | 98.2,98.2  |
| 80  | 0.0940                | 0.0938 | 0.1314 | 0.1502 | 0.0840 | 0.0374 | 0.0375 | 0.0188 | 70- 80  | 0.2261  | 599.7   | 98.2,98.2  |
| 90  | 0.0375                | 0.0469 | 0.0469 | 0.0375 | 0.0469 | 0.0471 | 0.0751 | 0.0659 | 80- 90  | 0.0567  | 599.7   | 98.2,98.2  |
| 100 | 0.2897                | 0.2523 | 0.1963 | 0.1592 | 0.2252 | 0.2443 | 0.2816 | 0.3192 | 90-100  | 0.1323  | 599.9   | 98.3,98.3  |
| 110 | 0.7406                | 0.7216 | 0.6280 | 0.5715 | 0.6010 | 0.6570 | 0.7221 | 0.7508 | 100-110 | 0.4628  | 600.3   | 98.3,98.3  |
| 120 | 1.444                 | 1.378  | 1.266  | 1.209  | 1.210  | 1.285  | 1.370  | 1.407  | 110-120 | 0.9703  | 601.3   | 98.5,98.5  |
| 130 | 2.250                 | 2.156  | 2.063  | 1.978  | 1.970  | 2.035  | 2.157  | 2.195  | 120-130 | 1.520   | 602.8   | 98.8,98.8  |
| 140 | 3.038                 | 2.944  | 2.851  | 2.794  | 2.776  | 2.823  | 2.917  | 2.964  | 130-140 | 1.924   | 604.8   | 99.1,99.1  |
| 150 | 3.808                 | 3.713  | 3.601  | 3.572  | 3.545  | 3.593  | 3.659  | 3.715  | 140-150 | 2.038   | 606.8   | 99.4,99.4  |
| 160 | 4.529                 | 4.417  | 4.323  | 4.322  | 4.305  | 4.333  | 4.399  | 4.418  | 150-160 | 1.847   | 608.6   | 99.7,99.7  |
| 170 | 5.046                 | 4.980  | 4.933  | 4.913  | 4.980  | 4.990  | 4.999  | 5.018  | 160-170 | 1.320   | 610.0   | 99.9,99.9  |
| 180 | 5.262                 | 5.262  | 5.252  | 5.168  | 5.252  | 5.280  | 5.280  | 5.262  | 170-180 | 0.4866  | 610.4   | 100,100    |
| DEG | LUMINOUS INTENSITY:cd |        |        |        |        |        |        |        |         | UNIT:lm |         |            |

Conical surface Flux(90deg): 481.49 lm

%lum = 78.9%

%lamp = 78.9%

Conical surface Flux(120deg): 591.65 lm

%lum = 96.9%

%lamp = 96.9%

C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: HIGH  
Temperature:25.3℃  
Operators:DAMIN  
Test Date:2023-10-26

γ Range: 0 - 180DEG  
γ Interval: 1.0DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.00.477  
Humidity:65.0%  
Test Distance:12.020m [K=1.0000]  
Remarks:

## LUMINANCE LIMITATION CURVES

Test:U:230.23V I:0.0456A P:9.8541W PF:0.9380 Freq:50.00Hz

Lamp Flux:610.444x1 lm

NAME: R731 B4K

TYPE:

WEIGHT:

SPEC.:

DIM.:

SERIAL No.:

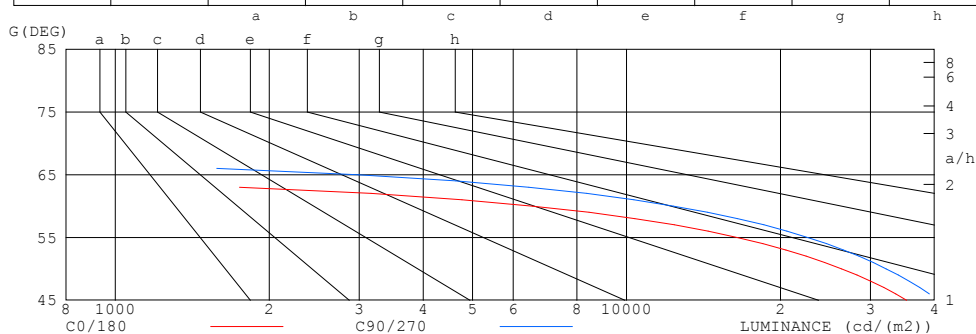
MFR.: EVERFINE

SUR.:

Shielding Angle:

LUMINANCE LIMITATION CURVES

| GLARE | CLASS | ILLUMINANCE (lx) |      |      |       |       |       |       |       |
|-------|-------|------------------|------|------|-------|-------|-------|-------|-------|
| 1.15  | A     | 2000             | 1000 | 500  | <=300 |       |       |       |       |
| 1.50  | B     |                  | 2000 | 1000 | 500   | <=300 |       |       |       |
| 1.85  | C     |                  |      | 2000 | 1000  | 500   | <=300 |       |       |
| 2.20  | D     |                  |      |      | 2000  | 1000  | 500   | <=300 |       |
| 2.55  | E     |                  |      |      |       | 2000  | 1000  | 500   | <=300 |



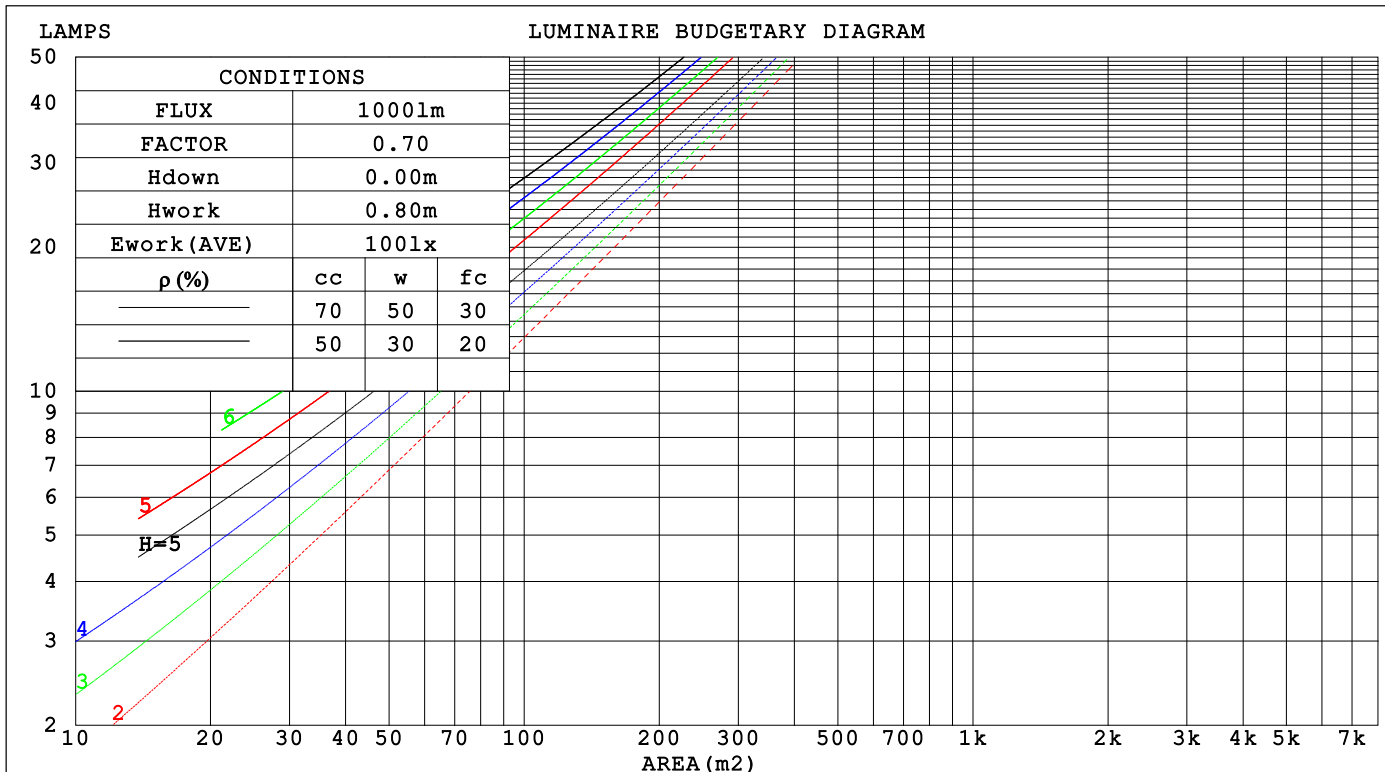
C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: HIGH  
Temperature:25.3°C  
Operators:DAMIN  
Test Date:2023-10-26

$\gamma$  Range: 0 - 180DEG  
 $\gamma$  Interval: 1.0DEG  
 $\gamma$  Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.00.477  
Humidity:65.0%  
Test Distance:12.020m [K=1.0000]  
Remarks:

## CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

|   |  |       |  |                  |  |
|---|--|-------|--|------------------|--|
| Test:U:230.23V I:0.0456A P:9.8541W PF:0.9380 Freq:50.00Hz<br>Lamp Flux:610.444x1 lm |  |       |  |                  |  |
| NAME: R731 B4K  |  | TYPE: |  | WEIGHT:          |  |
| SPEC.:  |  | DIM.: |  | SERIAL No.:      |  |
| MFR.: EVERFINE  |  | SUR.: |  | Shielding Angle: |  |

| pcc  | 80%  |      |      | 70%  |      |      | 50%  |      |      | 30%  |      |      | 10%  |      |      | 0   |
|------|--|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----|
| pw   | 50%  | 30%  | 10%  | 50%  | 30%  | 10%  | 50%  | 30%  | 10%  | 50%  | 30%  | 10%  | 50%  | 30%  | 10%  | 0   |
| pfc  | 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 | 1.10 | 1.10 | 1.10 | 1.05 | 1.05 | 1.05 | 1.00 | 1.00 | 1.00 | .98 |
| 1.0  | 1.08   | 1.06 | 1.03 | 1.06 | 1.03 | 1.01 | 1.02 | .00  | .98  | .98  | .96  | .94  | .94  | .93  | .91  | .89 |
| 2.0  | .99  | .94  | .89  | .97  | .92  | .88  | .93  | .89  | .86  | .90  | .87  | .84  | .87  | .84  | .82  | .80 |
| 3.0  | .90  | .83  | .79  | .88  | .82  | .78  | .85  | .80  | .76  | .82  | .78  | .75  | .80  | .76  | .73  | .72 |
| 4.0  | .82  | .75  | .70  | .80  | .74  | .69  | .78  | .72  | .68  | .75  | .71  | .67  | .73  | .69  | .66  | .64 |
| 5.0  | .74  | .67  | .62  | .73  | .67  | .62  | .71  | .65  | .61  | .69  | .64  | .60  | .67  | .63  | .59  | .58 |
| 6.0  | .68  | .61  | .56  | .67  | .60  | .55  | .65  | .59  | .55  | .64  | .58  | .54  | .62  | .57  | .54  | .52 |
| 7.0  | .63  | .55  | .50  | .62  | .55  | .50  | .60  | .54  | .50  | .59  | .53  | .49  | .58  | .53  | .49  | .47 |
| 8.0  | .58  | .51  | .46  | .57  | .50  | .45  | .56  | .50  | .45  | .55  | .49  | .45  | .53  | .48  | .45  | .43 |
| 9.0  | .54  | .47  | .42  | .53  | .46  | .42  | .52  | .46  | .41  | .51  | .45  | .41  | .50  | .45  | .41  | .39 |
| 10.0 | .50  | .43  | .38  | .49  | .43  | .38  | .48  | .42  | .38  | .47  | .42  | .38  | .46  | .41  | .38  | .36 |



C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: HIGH  
Temperature:25.3℃  
Operators:DAMIN  
Test Date:2023-10-26

γ Range: 0 - 180DEG  
γ Interval: 1.0DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.00.477  
Humidity:65.0%  
Test Distance:12.020m [K=1.0000]  
Remarks:

### WEC AND CCEC

|   |       |                  |
|---|-------|------------------|
| Test:U:230.23V I:0.0456A P:9.8541W PF:0.9380 Freq:50.00Hz<br>Lamp Flux:610.444x1 lm |       |                  |
| NAME: R731 B4K  | TYPE: | WEIGHT:          |
| SPEC.:  | DIM.: | SERIAL No.:      |
| MFR.: EVERFINE  | SUR.: | Shielding Angle: |

| pcc  | 80%                   |      |      | 70%  |      |      | 50%                             |      |      | 30%  |      |      | 10%  |      |      | 0 |  |
|------|-----------------------|------|------|------|------|------|---------------------------------|------|------|------|------|------|------|------|------|---|--|
| pw   | 50%                   | 30%  | 10%  | 50%  | 30%  | 10%  | 50%                             | 30%  | 10%  | 50%  | 30%  | 10%  | 50%  | 30%  | 10%  | 0 |  |
| pfc  | 20%                   |      |      | 20%  |      |      | 20%                             |      |      | 20%  |      |      | 20%  |      |      | 0 |  |
| RCR  | RCR:Room Cavity Ratio |      |      |      |      |      | Wall Exitance Coefficients(WEC) |      |      |      |      |      |      |      |      |   |  |
| 0.0  |                       |      |      |      |      |      |                                 |      |      |      |      |      |      |      |      |   |  |
| 1.0  | .213                  | .121 | .038 | .206 | .118 | .037 | .192                            | .110 | .035 | .180 | .104 | .033 | .168 | .097 | .031 |   |  |
| 2.0  | .210                  | .115 | .035 | .203 | .112 | .034 | .191                            | .106 | .033 | .180 | .101 | .032 | .170 | .096 | .030 |   |  |
| 3.0  | .202                  | .107 | .032 | .196 | .105 | .032 | .186                            | .101 | .031 | .176 | .097 | .030 | .167 | .093 | .029 |   |  |
| 4.0  | .193                  | .100 | .029 | .188 | .098 | .029 | .179                            | .095 | .028 | .170 | .091 | .028 | .162 | .088 | .027 |   |  |
| 5.0  | .183                  | .093 | .027 | .179 | .092 | .027 | .171                            | .089 | .026 | .163 | .086 | .026 | .156 | .084 | .025 |   |  |
| 6.0  | .174                  | .087 | .025 | .170 | .086 | .025 | .163                            | .084 | .024 | .156 | .081 | .024 | .150 | .079 | .023 |   |  |
| 7.0  | .166                  | .082 | .023 | .162 | .081 | .023 | .156                            | .079 | .023 | .150 | .077 | .022 | .144 | .075 | .022 |   |  |
| 8.0  | .158                  | .077 | .022 | .154 | .076 | .021 | .149                            | .074 | .021 | .143 | .072 | .021 | .138 | .071 | .021 |   |  |
| 9.0  | .150                  | .072 | .020 | .147 | .072 | .020 | .142                            | .070 | .020 | .137 | .069 | .020 | .132 | .067 | .019 |   |  |
| 10.0 | .143                  | .068 | .019 | .140 | .068 | .019 | .135                            | .066 | .019 | .131 | .065 | .018 | .126 | .064 | .018 |   |  |

| pcc  | 80%                   |      |      | 70%  |      |      | 50%   |      |      | 30%  |      |      | 10%  |      |      | 0 |  |
|------|-----------------------|------|------|------|------|------|---|------|------|------|------|------|------|------|------|---|--|
| pw   | 50%                   | 30%  | 10%  | 50%  | 30%  | 10%  | 50%   | 30%  | 10%  | 50%  | 30%  | 10%  | 50%  | 30%  | 10%  | 0 |  |
| pfc  | 20%                   |      |      | 20%  |      |      | 20%   |      |      | 20%  |      |      | 20%  |      |      | 0 |  |
| RCR  | RCR:Room Cavity Ratio |      |      |      |      |      | Ceiling Cavity Exitance Coefficients (CCEC) |      |      |      |      |      |      |      |      |   |  |
| 0.0  | .204                  | .204 | .204 | .174 | .174 | .174 | .119  | .119 | .119 | .068 | .068 | .068 | .022 | .022 | .022 |   |  |
| 1.0  | .187                  | .170 | .155 | .160 | .146 | .134 | .110  | .101 | .093 | .063 | .058 | .054 | .020 | .019 | .017 |   |  |
| 2.0  | .175                  | .146 | .122 | .150 | .126 | .105 | .103  | .087 | .073 | .059 | .051 | .043 | .019 | .016 | .014 |   |  |
| 3.0  | .165                  | .127 | .098 | .141 | .110 | .085 | .097  | .076 | .059 | .056 | .045 | .035 | .018 | .014 | .011 |   |  |
| 4.0  | .157                  | .113 | .080 | .134 | .098 | .070 | .092  | .068 | .049 | .053 | .040 | .029 | .017 | .013 | .010 |   |  |
| 5.0  | .149                  | .102 | .068 | .128 | .089 | .059 | .088  | .062 | .042 | .051 | .036 | .025 | .016 | .012 | .008 |   |  |
| 6.0  | .143                  | .094 | .059 | .123 | .081 | .051 | .085  | .057 | .036 | .049 | .033 | .021 | .016 | .011 | .007 |   |  |
| 7.0  | .137                  | .087 | .052 | .118 | .075 | .045 | .081  | .053 | .032 | .047 | .031 | .019 | .015 | .010 | .006 |   |  |
| 8.0  | .131                  | .081 | .046 | .113 | .070 | .040 | .078  | .049 | .029 | .045 | .029 | .017 | .015 | .010 | .006 |   |  |
| 9.0  | .126                  | .076 | .042 | .109 | .066 | .037 | .075  | .046 | .026 | .044 | .027 | .015 | .014 | .009 | .005 |   |  |
| 10.0 | .121                  | .072 | .039 | .105 | .062 | .034 | .073  | .044 | .024 | .042 | .026 | .014 | .014 | .008 | .005 |   |  |

C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: HIGH  
Temperature:25.3℃  
Operators:DAMIN  
Test Date:2023-10-26

γ Range: 0 - 180DEG  
γ Interval: 1.0DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.00.477  
Humidity:65.0%  
Test Distance:12.020m [K=1.0000]  
Remarks:

### UGR(Unified Glare Rating) Table

|   |                  |      |      |      |       |                |      |                  |      |      |
|---|------------------|------|------|------|-------|----------------|------|------------------|------|------|
| Test:U:230.23V I:0.0456A P:9.8541W PF:0.9380 Freq:50.00Hz<br>Lamp Flux:610.444x1 lm |                  |      |      |      |       |                |      |                  |      |      |
| NAME: R731 B4K  |                  |      |      |      | TYPE: |                |      | WEIGHT:          |      |      |
| SPEC.:  |                  |      |      |      | DIM.: |                |      | SERIAL No.:      |      |      |
| MFR.: EVERFINE  |                  |      |      |      | SUR.: |                |      | Shielding Angle: |      |      |
| 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   | 21.9             | 23.0 | 22.1 | 23.3 | 23.5  | 22.7           | 23.9 | 22.9             | 24.1 | 24.3 |
| 3H  | 21.7             | 22.7 | 22.0 | 23.0 | 23.2  | 22.5           | 23.6 | 22.8             | 23.8 | 24.1 |
| 4H  | 21.6             | 22.6 | 21.9 | 22.8 | 23.1  | 22.4           | 23.4 | 22.7             | 23.7 | 23.9 |
| 6H  | 21.5             | 22.4 | 21.8 | 22.7 | 23.0  | 22.3           | 23.2 | 22.6             | 23.5 | 23.8 |
| 8H  | 21.4             | 22.3 | 21.8 | 22.6 | 22.9  | 22.2           | 23.1 | 22.6             | 23.4 | 23.7 |
| 12H   | 21.4             | 22.2 | 21.7 | 22.5 | 22.9  | 22.2           | 23.1 | 22.5             | 23.4 | 23.7 |
| 4H 2H   | 21.7             | 22.7 | 22.0 | 23.0 | 23.3  | 22.5           | 23.5 | 22.8             | 23.8 | 24.0 |
| 3H  | 21.5             | 22.4 | 21.9 | 22.7 | 23.0  | 22.3           | 23.2 | 22.6             | 23.5 | 23.8 |
| 4H  | 21.4             | 22.2 | 21.8 | 22.5 | 22.9  | 22.2           | 23.0 | 22.6             | 23.3 | 23.7 |
| 6H  | 21.3             | 22.0 | 21.7 | 22.4 | 22.8  | 22.1           | 22.8 | 22.5             | 23.1 | 23.5 |
| 8H  | 21.3             | 21.9 | 21.7 | 22.3 | 22.7  | 22.0           | 22.7 | 22.5             | 23.1 | 23.5 |
| 12H   | 21.2             | 21.8 | 21.7 | 22.2 | 22.6  | 22.0           | 22.6 | 22.4             | 23.0 | 23.4 |
| 8H 4H   | 21.3             | 21.9 | 21.7 | 22.3 | 22.7  | 22.0           | 22.7 | 22.5             | 23.1 | 23.5 |
| 6H  | 21.2             | 21.7 | 21.6 | 22.1 | 22.6  | 21.9           | 22.5 | 22.4             | 22.9 | 23.3 |
| 8H  | 21.1             | 21.6 | 21.6 | 22.0 | 22.5  | 21.9           | 22.3 | 22.4             | 22.8 | 23.3 |
| 12H   | 21.1             | 21.4 | 21.6 | 21.9 | 22.4  | 21.8           | 22.2 | 22.3             | 22.7 | 23.2 |
| 12H 4H  | 21.2             | 21.8 | 21.7 | 22.2 | 22.6  | 22.0           | 22.6 | 22.4             | 23.0 | 23.4 |
| 6H  | 21.1             | 21.6 | 21.6 | 22.0 | 22.5  | 21.9           | 22.3 | 22.4             | 22.8 | 23.3 |
| 8H  | 21.1             | 21.4 | 21.6 | 21.9 | 22.4  | 21.8           | 22.2 | 22.3             | 22.7 | 23.2 |
| Variations with the observer position at spacings(CIE Pub.117):                     |                  |      |      |      |       |                |      |                  |      |      |
| S = 1.0H  | + 1.9 / - 4.3    |      |      |      |       | + 1.6 / - 2.8  |      |                  |      |      |
| 1.5H  | + 1.1 / - 2.0    |      |      |      |       | + 0.9 / - 1.8  |      |                  |      |      |
| 2.0H  | + 3.9 / -14.8    |      |      |      |       | + 3.5 / -11.1  |      |                  |      |      |

CIE Pub.117, 610.4 lm Total Lamp Luminous Flux Corrected (8log(F/F0) = -1.7)  
Area: 0.0056079 m2

C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: HIGH  
Temperature:25.3℃  
Operators:DAMIN  
Test Date:2023-10-26

γ Range: 0 - 180DEG  
γ Interval: 1.0DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.00.477  
Humidity:65.0%  
Test Distance:12.020m [K=1.0000]  
Remarks:

### UTILIZATION FACTORS TABLE

|   |       |                  |
|---|-------|------------------|
| Test:U:230.23V I:0.0456A P:9.8541W PF:0.9380 Freq:50.00Hz<br>Lamp Flux:610.444x1 lm |       |                  |
| NAME: R731 B4K  | TYPE: | WEIGHT:          |
| SPEC.:  | DIM.: | SERIAL No.:      |
| MFR.: EVERFINE  | SUR.: | Shielding Angle: |

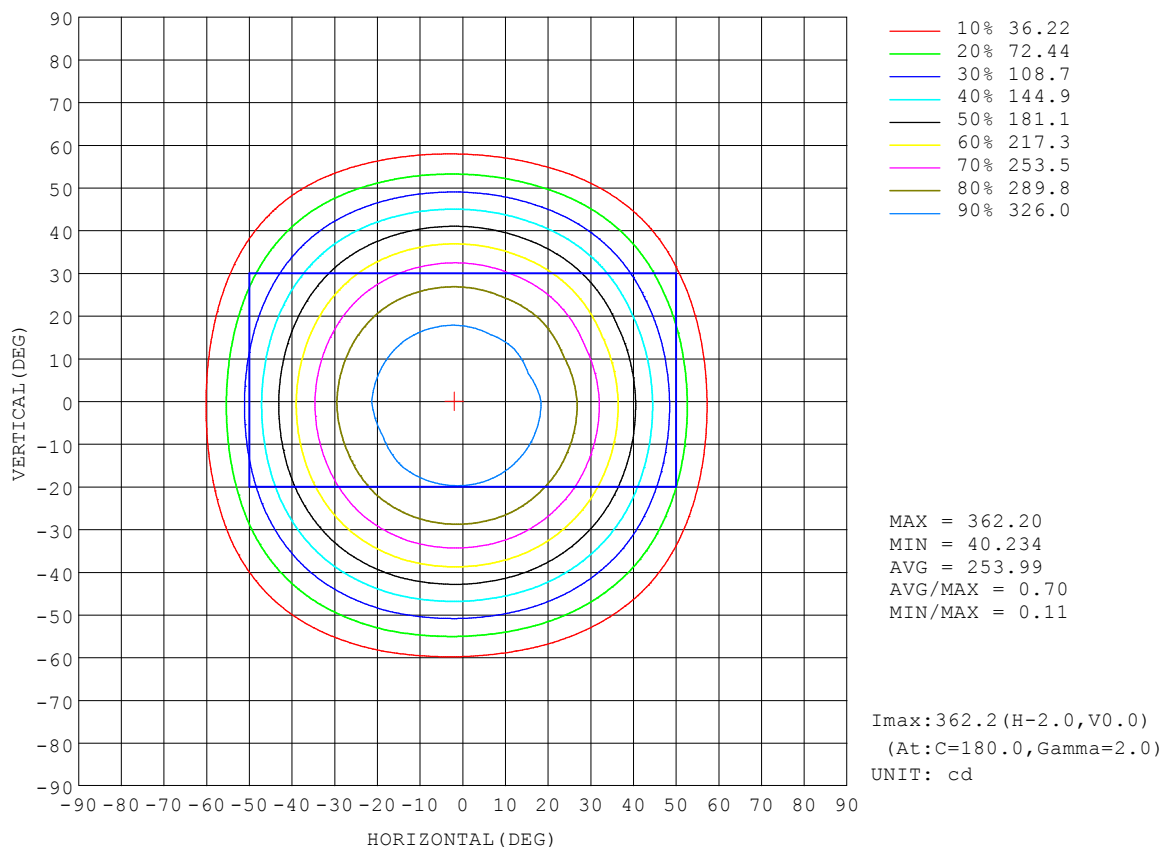
| REFLECTANCE                      |  |     |           |     |     |     |     |               |     |        |
|----------------------------------|--|-----|-----------|-----|-----|-----|-----|---------------|-----|--------|
| Ceiling                          | 0.8  | 0.8 | 0.8       | 0.7 | 0.7 | 0.7 | 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) $k(RI) \times RCR = 5$ |     |           |     |     |     |     |               |     |        |
| $k = 0.60$                       | 71   | 62  | 56        | 70  | 61  | 56  | 69  | 61            | 56  | 51     |
| 0.80                             | 81   | 72  | 67        | 80  | 72  | 67  | 78  | 71            | 66  | 61     |
| 1.00                             | 89   | 81  | 76        | 88  | 80  | 75  | 86  | 80            | 75  | 69     |
| 1.25                             | 95   | 87  | 83        | 93  | 87  | 82  | 91  | 85            | 81  | 76     |
| 1.50                             | 99   | 92  | 87        | 97  | 91  | 87  | 94  | 89            | 85  | 80     |
| 2.00                             | 104  | 98  | 94        | 102 | 97  | 93  | 99  | 94            | 91  | 85     |
| 2.50                             | 106  | 101 | 97        | 104 | 99  | 96  | 100 | 97            | 94  | 86     |
| 3.00                             | 108  | 104 | 100       | 106 | 102 | 99  | 102 | 99            | 96  | 89     |
| 4.00                             | 111  | 107 | 104       | 108 | 105 | 102 | 104 | 101           | 99  | 91     |
| 5.00                             | 112  | 109 | 106       | 110 | 107 | 104 | 105 | 103           | 101 | 92     |
| ROOM INDEX                       | UF (total)   |     |           |     |     |     |     |               |     | Direct |
| According to DIN EN 13032-2 2004 |  |     | Suspended |     |     |     |     | SHRNOM = 1.25 |     |        |

C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: HIGH  
Temperature:25.3°C  
Operators:DAMIN  
Test Date:2023-10-26

γ Range: 0 - 180DEG  
γ Interval: 1.0DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.00.477  
Humidity:65.0%  
Test Distance:12.020m [K=1.0000]  
Remarks:

### ISOCANDELA DIAGRAM

|   |       |                  |
|---|-------|------------------|
| Test:U:230.23V I:0.0456A P:9.8541W PF:0.9380 Freq:50.00Hz<br>Lamp Flux:610.444x1 lm |       |                  |
| NAME: R731 B4K  | TYPE: | WEIGHT:          |
| SPEC.:  | DIM.: | SERIAL No.:      |
| MFR.: EVERFINE  | SUR.: | Shielding Angle: |



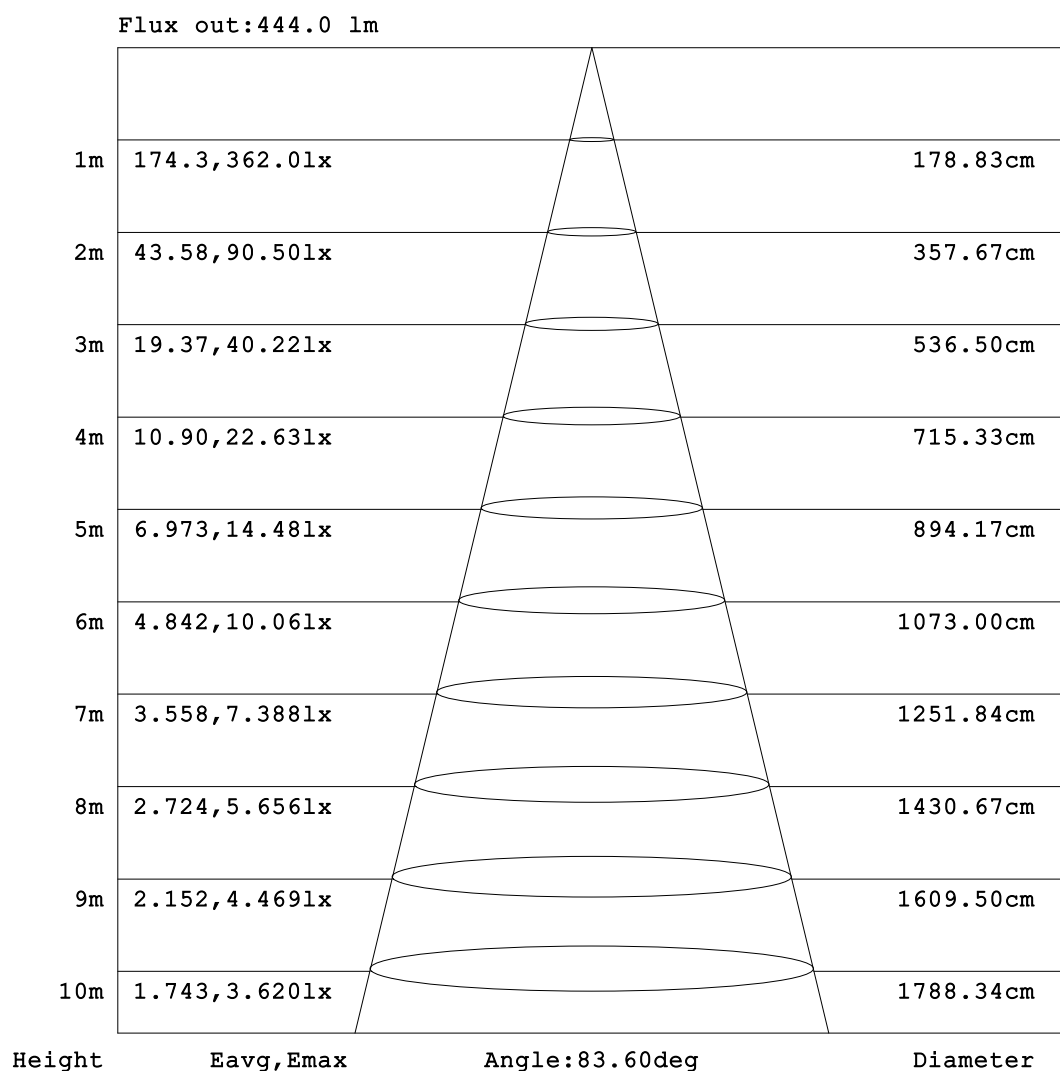
C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: HIGH  
Temperature:25.3°C  
Operators:DAMIN  
Test Date:2023-10-26

γ Range: 0 - 180DEG  
γ Interval: 1.0DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.00.477  
Humidity:65.0%  
Test Distance:12.020m [K=1.0000]  
Remarks:



### AAI Figure

|   |       |                  |
|---|-------|------------------|
| Test:U:230.23V I:0.0456A P:9.8541W PF:0.9380 Freq:50.00Hz<br>Lamp Flux:610.444x1 lm |       |                  |
| NAME: R731 B4K  | TYPE: | WEIGHT:          |
| SPEC.:  | DIM.: | SERIAL No.:      |
| MFR.: EVERFINE  | SUR.: | Shielding Angle: |



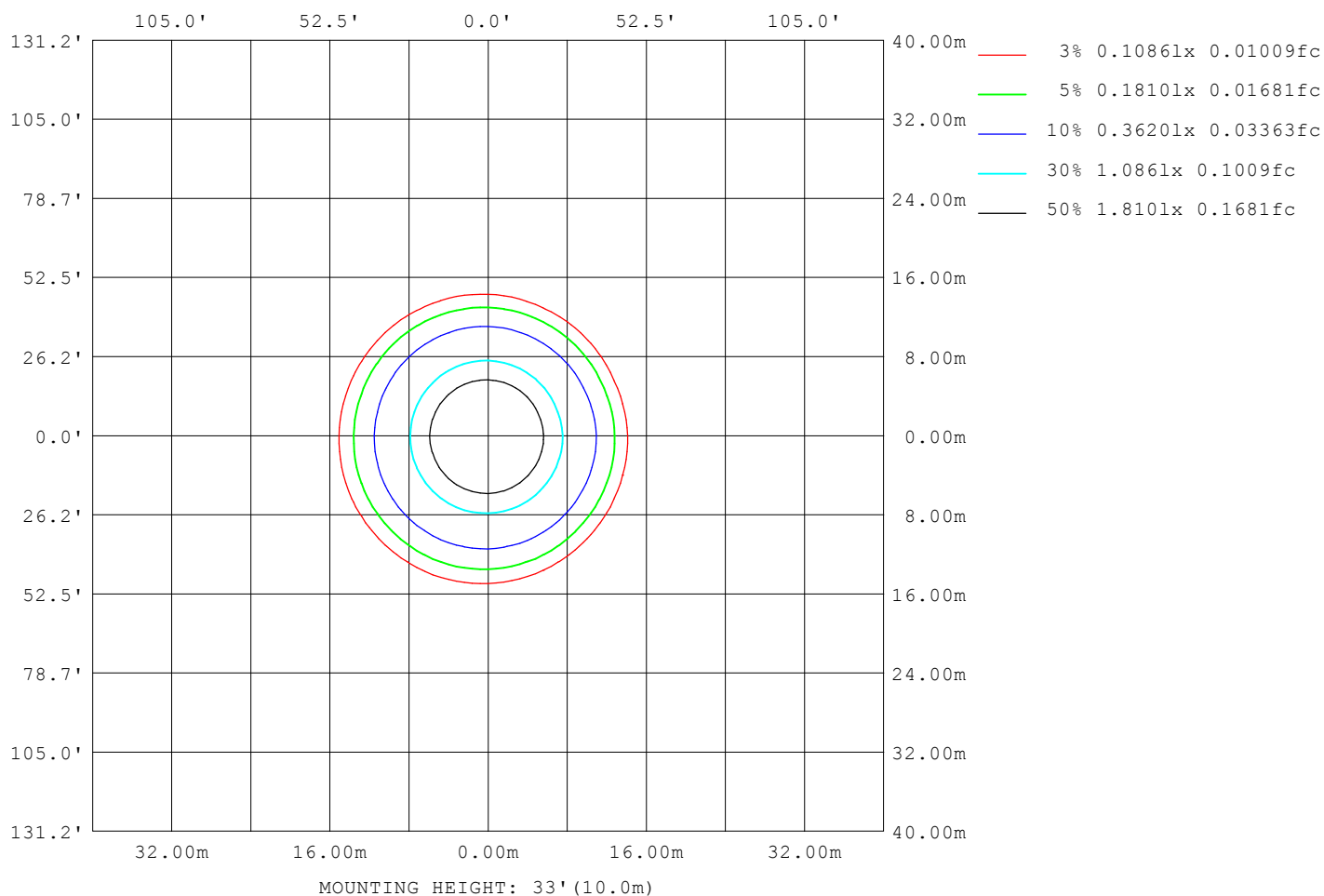
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: HIGH  
Temperature:25.3°C  
Operators:DAMIN  
Test Date:2023-10-26

γ Range: 0 - 180DEG  
γ Interval: 1.0DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.00.477  
Humidity:65.0%  
Test Distance:12.020m [K=1.0000]  
Remarks:

## ISOLUX DIAGRAM

|   |       |                  |
|---|-------|------------------|
| Test:U:230.23V I:0.0456A P:9.8541W PF:0.9380 Freq:50.00Hz<br>Lamp Flux:610.444x1 lm |       |                  |
| NAME: R731 B4K  | TYPE: | WEIGHT:          |
| SPEC.:  | DIM.: | SERIAL No.:      |
| MFR.: EVERFINE  | SUR.: | Shielding Angle: |



C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: HIGH  
Temperature:25.3°C  
Operators:DAMIN  
Test Date:2023-10-26

γ Range: 0 - 180DEG  
γ Interval: 1.0DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.00.477  
Humidity:65.0%  
Test Distance:12.020m [K=1.0000]  
Remarks:

### LED Avg.L Report

|   |       |                  |
|---|-------|------------------|
| Test:U:230.23V I:0.0456A P:9.8541W PF:0.9380 Freq:50.00Hz<br>Lamp Flux:610.444x1 lm |       |                  |
| NAME: R731 B4K  | TYPE: | WEIGHT:          |
| SPEC.:  | DIM.: | SERIAL No.:      |
| MFR.: EVERFINE  | SUR.: | Shielding Angle: |

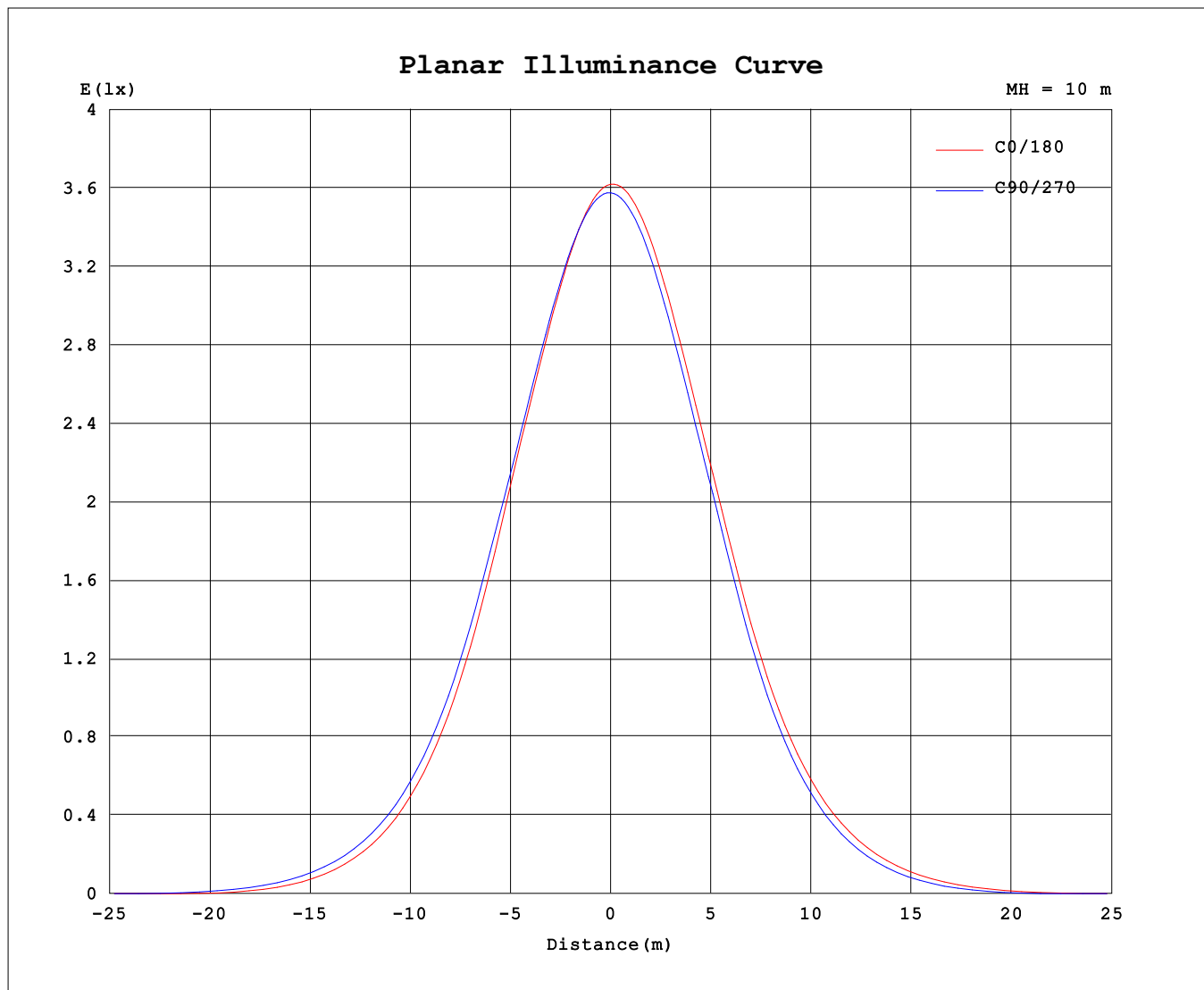
| AvgL             | cd/m2 |
|------------------|-------|
| L_0~180 (65) av  | 1953  |
| L_0~180 (75) av  | 161   |
| L_0~180 (85) av  | 86    |
| L_90~270 (65) av | 1800  |
| L_90~270 (75) av | 136   |
| L_90~270 (85) av | 115   |
| L_45 (65) av     | 1812  |
| L_45 (75) av     | 131   |
| L_45 (85) av     | 91    |

Standard: GB/T 29293-2012

C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: HIGH  
Temperature:25.3℃  
Operators:DAMIN  
Test Date:2023-10-26

γ Range: 0 - 180DEG  
γ Interval: 1.0DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.00.477  
Humidity:65.0%  
Test Distance:12.020m [K=1.0000]  
Remarks:

## Planar Illuminance Curve



C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: HIGH  
Temperature: 25.3°C  
Operators: DAMIN  
Test Date: 2023-10-26

$\gamma$  Range: 0 - 180DEG  
 $\gamma$  Interval: 1.0DEG  
Test System: EVERFINE GO-2000A\_V1 SYSTEM V2.00.477  
Humidity: 65.0%  
Test Distance: 12.020m [K=1.0000]  
Remarks:

### LUMINOUS DISTRIBUTION INTENSITY DATA

|   |  |  |  |  |  |  |  |  |       |  |  |  |  |  |                  |  |  |
|---|--|--|--|--|--|--|--|--|-------|--|--|--|--|--|------------------|--|--|
| Test:U:230.23V I:0.0456A P:9.8541W PF:0.9380 Freq:50.00Hz<br>Lamp Flux:610.444x1 lm |  |  |  |  |  |  |  |  |       |  |  |  |  |  |                  |  |  |
| NAME: R731 B4K  |  |  |  |  |  |  |  |  | TYPE: |  |  |  |  |  | WEIGHT:          |  |  |
| SPEC.:  |  |  |  |  |  |  |  |  | DIM.: |  |  |  |  |  | SERIAL No.:      |  |  |
| MFR.: EVERFINE  |  |  |  |  |  |  |  |  | SUR.: |  |  |  |  |  | Shielding Angle: |  |  |

Table--1

UNIT: cd

| C (DEG)<br>γ (DEG) | 0    | 22.5 | 45   | 67.5 | 90   | 112.5 | 135  | 157.5 | 180  | 202.5 | 225  | 247.5 | 270  | 292.5 | 315  | 337.5 |  |  |  |
|--------------------|------|------|------|------|------|-------|------|-------|------|-------|------|-------|------|-------|------|-------|--|--|--|
| 0                  | 362  | 361  | 359  | 358  | 358  | 357   | 359  | 357   | 362  | 361   | 359  | 358   | 358  | 357   | 359  | 357   |  |  |  |
| 5                  | 358  | 357  | 357  | 356  | 356  | 356   | 358  | 356   | 361  | 359   | 358  | 356   | 354  | 353   | 354  | 353   |  |  |  |
| 10                 | 350  | 349  | 349  | 350  | 350  | 351   | 353  | 351   | 356  | 353   | 351  | 348   | 347  | 345   | 346  | 344   |  |  |  |
| 15                 | 337  | 337  | 338  | 339  | 340  | 341   | 343  | 341   | 345  | 343   | 340  | 337   | 334  | 332   | 333  | 331   |  |  |  |
| 20                 | 320  | 321  | 322  | 324  | 325  | 327   | 328  | 327   | 331  | 328   | 325  | 321   | 318  | 315   | 316  | 314   |  |  |  |
| 25                 | 300  | 301  | 302  | 305  | 306  | 308   | 310  | 309   | 312  | 309   | 305  | 301   | 298  | 294   | 295  | 294   |  |  |  |
| 30                 | 269  | 271  | 274  | 280  | 283  | 286   | 287  | 286   | 287  | 283   | 280  | 275   | 271  | 266   | 265  | 262   |  |  |  |
| 35                 | 229  | 232  | 237  | 243  | 248  | 252   | 253  | 251   | 251  | 247   | 243  | 237   | 233  | 227   | 226  | 223   |  |  |  |
| 40                 | 186  | 189  | 194  | 201  | 206  | 211   | 212  | 211   | 209  | 204   | 200  | 195   | 190  | 184   | 182  | 179   |  |  |  |
| 45                 | 140  | 143  | 148  | 156  | 161  | 166   | 167  | 167   | 164  | 160   | 156  | 150   | 144  | 139   | 136  | 134   |  |  |  |
| 50                 | 95.0 | 98.2 | 103  | 110  | 116  | 121   | 122  | 122   | 119  | 115   | 110  | 105   | 99.6 | 94.1  | 91.4 | 89.7  |  |  |  |
| 55                 | 52.9 | 55.9 | 60.5 | 67.2 | 72.7 | 77.4  | 78.5 | 78.4  | 75.5 | 71.8  | 67.8 | 62.3  | 57.6 | 52.6  | 50.1 | 48.9  |  |  |  |
| 60                 | 18.3 | 20.8 | 24.5 | 30.0 | 34.7 | 38.7  | 39.4 | 39.7  | 37.2 | 34.1  | 30.8 | 26.4  | 22.4 | 18.6  | 16.8 | 15.9  |  |  |  |
| 65                 | 0.69 | 0.84 | 1.95 | 4.43 | 7.09 | 9.67  | 10.0 | 10.2  | 8.56 | 5.48  | 4.70 | 2.91  | 1.44 | 0.69  | 0.51 | 0.61  |  |  |  |
| 70                 | 0.37 | 0.30 | 0.40 | 0.33 | 0.49 | 0.44  | 0.60 | 0.56  | 0.56 | 0.59  | 0.44 | 0.49  | 0.29 | 0.34  | 0.22 | 0.33  |  |  |  |
| 75                 | 0.20 | 0.11 | 0.21 | 0.14 | 0.25 | 0.19  | 0.31 | 0.22  | 0.27 | 0.32  | 0.19 | 0.25  | 0.14 | 0.18  | 0.06 | 0.16  |  |  |  |
| 80                 | 0.09 | 0.04 | 0.09 | 0.05 | 0.13 | 0.05  | 0.15 | 0.04  | 0.08 | 0.14  | 0.04 | 0.12  | 0.04 | 0.09  | 0.02 | 0.08  |  |  |  |
| 85                 | 0.05 | 0.05 | 0.06 | 0.05 | 0.08 | 0.05  | 0.07 | 0.04  | 0.04 | 0.05  | 0.03 | 0.06  | 0.04 | 0.04  | 0.03 | 0.04  |  |  |  |
| 90                 | 0.04 | 0.09 | 0.05 | 0.08 | 0.05 | 0.06  | 0.04 | 0.07  | 0.05 | 0.03  | 0.05 | 0.05  | 0.08 | 0.04  | 0.07 | 0.04  |  |  |  |
| 95                 | 0.15 | 0.19 | 0.09 | 0.16 | 0.07 | 0.13  | 0.04 | 0.12  | 0.09 | 0.03  | 0.12 | 0.05  | 0.15 | 0.11  | 0.17 | 0.07  |  |  |  |
| 100                | 0.29 | 0.34 | 0.25 | 0.30 | 0.20 | 0.26  | 0.16 | 0.25  | 0.23 | 0.16  | 0.24 | 0.17  | 0.28 | 0.21  | 0.32 | 0.24  |  |  |  |
| 105                | 0.48 | 0.56 | 0.44 | 0.51 | 0.38 | 0.46  | 0.33 | 0.42  | 0.38 | 0.30  | 0.41 | 0.36  | 0.48 | 0.42  | 0.51 | 0.41  |  |  |  |
| 110                | 0.74 | 0.83 | 0.72 | 0.76 | 0.63 | 0.69  | 0.57 | 0.67  | 0.60 | 0.52  | 0.66 | 0.60  | 0.72 | 0.66  | 0.75 | 0.66  |  |  |  |
| 115                | 1.08 | 1.14 | 1.03 | 1.07 | 0.93 | 0.98  | 0.89 | 0.96  | 0.88 | 0.80  | 0.94 | 0.88  | 1.02 | 0.95  | 1.06 | 0.96  |  |  |  |
| 120                | 1.44 | 1.49 | 1.38 | 1.42 | 1.27 | 1.32  | 1.21 | 1.29  | 1.21 | 1.13  | 1.29 | 1.23  | 1.37 | 1.34  | 1.41 | 1.32  |  |  |  |
| 125                | 1.84 | 1.89 | 1.77 | 1.81 | 1.66 | 1.70  | 1.58 | 1.66  | 1.57 | 1.49  | 1.63 | 1.61  | 1.75 | 1.69  | 1.80 | 1.68  |  |  |  |
| 130                | 2.25 | 2.31 | 2.16 | 2.20 | 2.06 | 2.11  | 1.98 | 2.06  | 1.97 | 1.91  | 2.04 | 1.99  | 2.16 | 2.10  | 2.20 | 2.08  |  |  |  |
| 135                | 2.69 | 2.70 | 2.56 | 2.62 | 2.47 | 2.50  | 2.40 | 2.46  | 2.37 | 2.29  | 2.44 | 2.42  | 2.55 | 2.47  | 2.59 | 2.47  |  |  |  |
| 140                | 3.04 | 3.10 | 2.94 | 3.00 | 2.85 | 2.92  | 2.79 | 2.85  | 2.78 | 2.67  | 2.82 | 2.78  | 2.92 | 2.86  | 2.96 | 2.85  |  |  |  |
| 145                | 3.45 | 3.49 | 3.32 | 3.37 | 3.23 | 3.28  | 3.16 | 3.23  | 3.15 | 3.06  | 3.20 | 3.15  | 3.28 | 3.22  | 3.32 | 3.22  |  |  |  |
| 150                | 3.81 | 3.87 | 3.71 | 3.76 | 3.60 | 3.66  | 3.57 | 3.61  | 3.55 | 3.43  | 3.59 | 3.54  | 3.66 | 3.58  | 3.71 | 3.59  |  |  |  |
| 155                | 4.19 | 4.24 | 4.07 | 4.13 | 3.98 | 4.05  | 3.93 | 4.01  | 3.95 | 3.84  | 3.98 | 3.90  | 4.02 | 3.95  | 4.08 | 3.99  |  |  |  |
| 160                | 4.53 | 4.58 | 4.42 | 4.47 | 4.32 | 4.41  | 4.32 | 4.36  | 4.31 | 4.22  | 4.33 | 4.27  | 4.40 | 4.32  | 4.42 | 4.33  |  |  |  |
| 165                | 4.81 | 4.89 | 4.73 | 4.78 | 4.66 | 4.73  | 4.64 | 4.70  | 4.67 | 4.60  | 4.69 | 4.63  | 4.74 | 4.66  | 4.75 | 4.63  |  |  |  |
| 170                | 5.05 | 5.11 | 4.98 | 5.05 | 4.93 | 4.99  | 4.91 | 4.97  | 4.98 | 4.90  | 4.99 | 4.90  | 5.00 | 4.90  | 5.02 | 4.89  |  |  |  |
| 175                | 5.21 | 5.27 | 5.16 | 5.23 | 5.11 | 5.19  | 5.09 | 5.16  | 5.21 | 5.10  | 5.21 | 5.09  | 5.21 | 5.11  | 5.20 | 5.08  |  |  |  |
| 180                | 5.26 | 5.27 | 5.26 | 5.27 | 5.25 | 5.22  | 5.17 | 5.22  | 5.25 | 5.26  | 5.28 | 5.25  | 5.28 | 5.20  | 5.26 | 5.14  |  |  |  |

C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: HIGH  
Temperature:25.3℃  
Operators:DAMIN  
Test Date:2023-10-26

γ Range: 0 - 180DEG  
γ Interval: 1.0DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.00.477  
Humidity:65.0%  
Test Distance:12.020m [K=1.0000]  
Remarks: