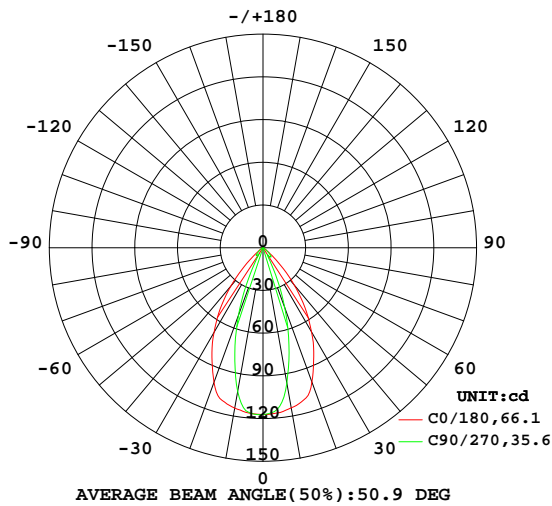


## LUMINAIRE PHOTOMETRIC TEST REPORT

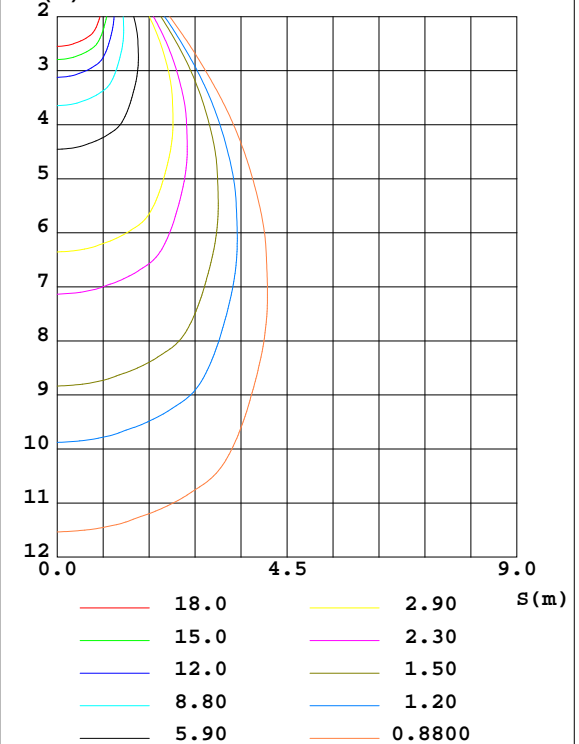
|  |                                |                  |
|--|--------------------------------|------------------|
| Test:U:12.025V I:0.4178A P:3.6063W PF:0.7178 Freq:59.99Hz Lamp Flux:84.7834x1 lm |                                |                  |
| NAME: 5221-30BZ(4X3-3W)  | TYPE:Surface-mounted Luminaire | HEIGHT:          |
| SPEC.:   | DIM.:                          | SERIAL No.:      |
| MFR.: WAC Lighting   | SUR.:                          | Shielding Angle: |

| DATA OF LAMP     |         | PHOTOMETRIC DATA |        |                        |          | Eff: 23.51 lm/W |
|------------------|---------|------------------|--------|------------------------|----------|-----------------|
| MODEL            |         | Imax(cd)         | 117.5  | S/MH(C0/180)           | 0.98     |                 |
| NOMINAL POWER(W) |         | LOR(%)           | 100.0  | S/MH(C90/270)          | 0.56     |                 |
| RATED VOLTAGE(V) | 12      | TOTAL FLUX(lm)   | 84.783 | $\eta$ UP,DN(C0-180)   | 0.0,51.0 |                 |
| NOMINAL FLUX(lm) | 84.7834 | CIE CLASS        | DIRECT | $\eta$ UP,DN(C180-360) | 0.0,48.9 |                 |
| LAMPS INSIDE     | 1       | $\eta$ up(%)     | 0.1    | CIBSE SHR NOM          | 0.50     |                 |
| TEST VOLTAGE(V)  | 12      | $\eta$ down(%)   | 99.9   | CIBSE SHR MAX          | 0.70     |                 |

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



C0 PLANE ISOLUX DIAGRAM (UNIT:lx)



C Range: 0 - 360DEG  
 C Interval: 22.5DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:Oliver  
 Test Date:2019-11-15

$\gamma$  Range: 0 - 180DEG  
 $\gamma$  Interval: 1.0DEG  
 Test System:EVERFINE GO-R5000\_V2 SYSTEM V2.0.366  
 Humidity:65.0%  
 Test Distance:2.499m [K=1.0000]  
 Remarks:

## ZONAL FLUX DIAGRAM

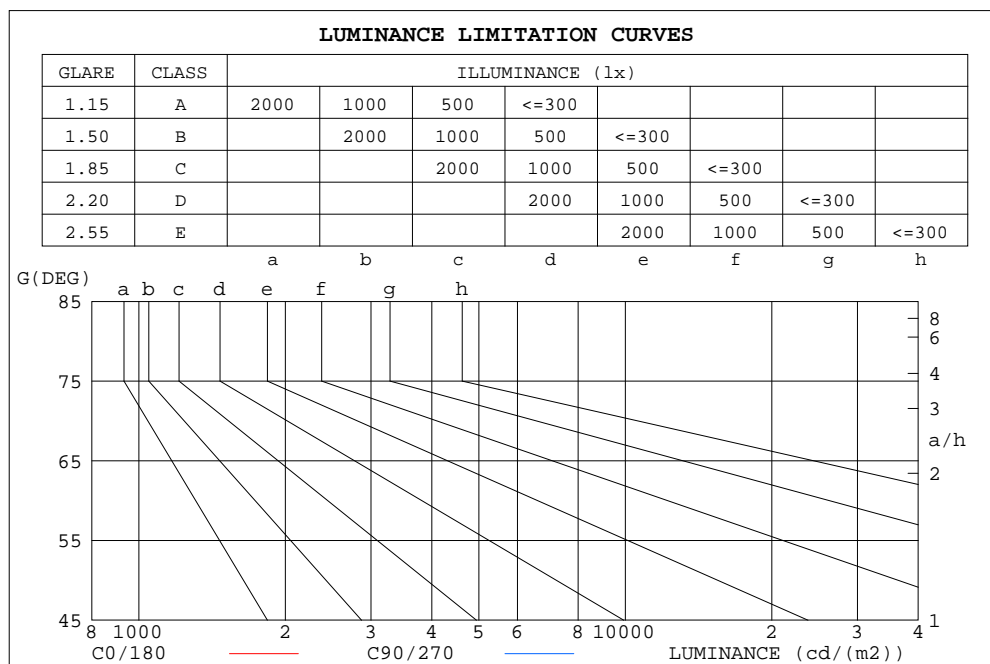
## ZONAL FLUX DIAGRAM:

| $\gamma$ | C0                    | C45    | C90    | C135   | C180   | C225   | C270   | C315   | $\gamma$ | $\Phi$ zone | $\Phi$ total | %lum, lamp |
|----------|-----------------------|--------|--------|--------|--------|--------|--------|--------|----------|-------------|--------------|------------|
| 10       | 114.4                 | 110.9  | 102.5  | 112.4  | 114.2  | 106.6  | 96.48  | 108.4  | 0- 10    | 10.82       | 10.82        | 12.8,12.8  |
| 20       | 100.6                 | 74.15  | 50.38  | 79.74  | 100.5  | 68.00  | 44.81  | 73.96  | 10- 20   | 25.80       | 36.63        | 43.2,43.2  |
| 30       | 68.96                 | 30.48  | 7.885  | 35.49  | 68.24  | 25.75  | 6.766  | 31.64  | 20- 30   | 24.34       | 60.97        | 71.9,71.9  |
| 40       | 35.20                 | 5.401  | 7.288  | 6.716  | 34.23  | 4.668  | 8.560  | 6.044  | 30- 40   | 14.01       | 74.97        | 88.4,88.4  |
| 50       | 7.418                 | 3.345  | 3.777  | 2.314  | 6.873  | 3.571  | 4.445  | 3.031  | 40- 50   | 6.725       | 81.70        | 96.4,96.4  |
| 60       | 1.716                 | 0.9966 | 1.145  | 0.8281 | 1.622  | 1.134  | 1.319  | 1.145  | 50- 60   | 1.968       | 83.67        | 98.7,98.7  |
| 70       | 0.5409                | 0.2880 | 0.4166 | 0.2562 | 0.6547 | 0.4701 | 0.6211 | 0.4713 | 60- 70   | 0.7108      | 84.38        | 99.5,99.5  |
| 80       | 0.0637                | 0.0620 | 0.1043 | 0.0418 | 0.3252 | 0.3422 | 0.3864 | 0.3226 | 70- 80   | 0.3097      | 84.69        | 99.9,99.9  |
| 90       | 0                     | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 80- 90   | 0.0382      | 84.73        | 99.9,99.9  |
| 100      | 0                     | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 90-100   | 0           | 84.73        | 99.9,99.9  |
| 110      | 0                     | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 100-110  | 0           | 84.73        | 99.9,99.9  |
| 120      | 0                     | 0      | 0      | 0      | 0.0409 | 0.0571 | 0.0686 | 0.0746 | 110-120  | 0.0046      | 84.73        | 99.9,99.9  |
| 130      | 0.0064                | 0      | 0      | 0.0009 | 0.0034 | 0      | 0      | 0.0005 | 120-130  | 0.0029      | 84.73        | 99.9,99.9  |
| 140      | 0.0115                | 0.0060 | 0.0068 | 0.0115 | 0.0205 | 0.0150 | 0.0094 | 0.0205 | 130-140  | 0.0049      | 84.74        | 99.9,99.9  |
| 150      | 0.0192                | 0.0200 | 0.0221 | 0.0200 | 0.0367 | 0.0346 | 0.0363 | 0.0418 | 140-150  | 0.0133      | 84.75        | 100,100    |
| 160      | 0.0252                | 0.0316 | 0.0333 | 0.0294 | 0.0444 | 0.0474 | 0.0555 | 0.0559 | 150-160  | 0.0162      | 84.77        | 100,100    |
| 170      | 0.0273                | 0.0329 | 0.0397 | 0.0311 | 0.0466 | 0.0461 | 0.0555 | 0.0584 | 160-170  | 0.0120      | 84.78        | 100,100    |
| 180      | 0.0481                | 0.0460 | 0.0456 | 0.0461 | 0.0461 | 0.0448 | 0.0452 | 0.0452 | 170-180  | 0.0041      | 84.78        | 100,100    |
| DEG      | LUMINOUS INTENSITY:cd |        |        |        |        |        |        |        |          | UNIT:lm     |              |            |

C Range: 0 - 360DEG  
 C Interval: 22.5DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:Oliver  
 Test Date:2019-11-15

$\gamma$  Range: 0 - 180DEG  
 $\gamma$  Interval: 1.0DEG  
 Test System:EVERFINE GO-R5000\_V2 SYSTEM V2.0.366  
 Humidity:65.0%  
 Test Distance:2.499m [K=1.0000]  
 Remarks:

## LUMINANCE LIMITATION CURVES



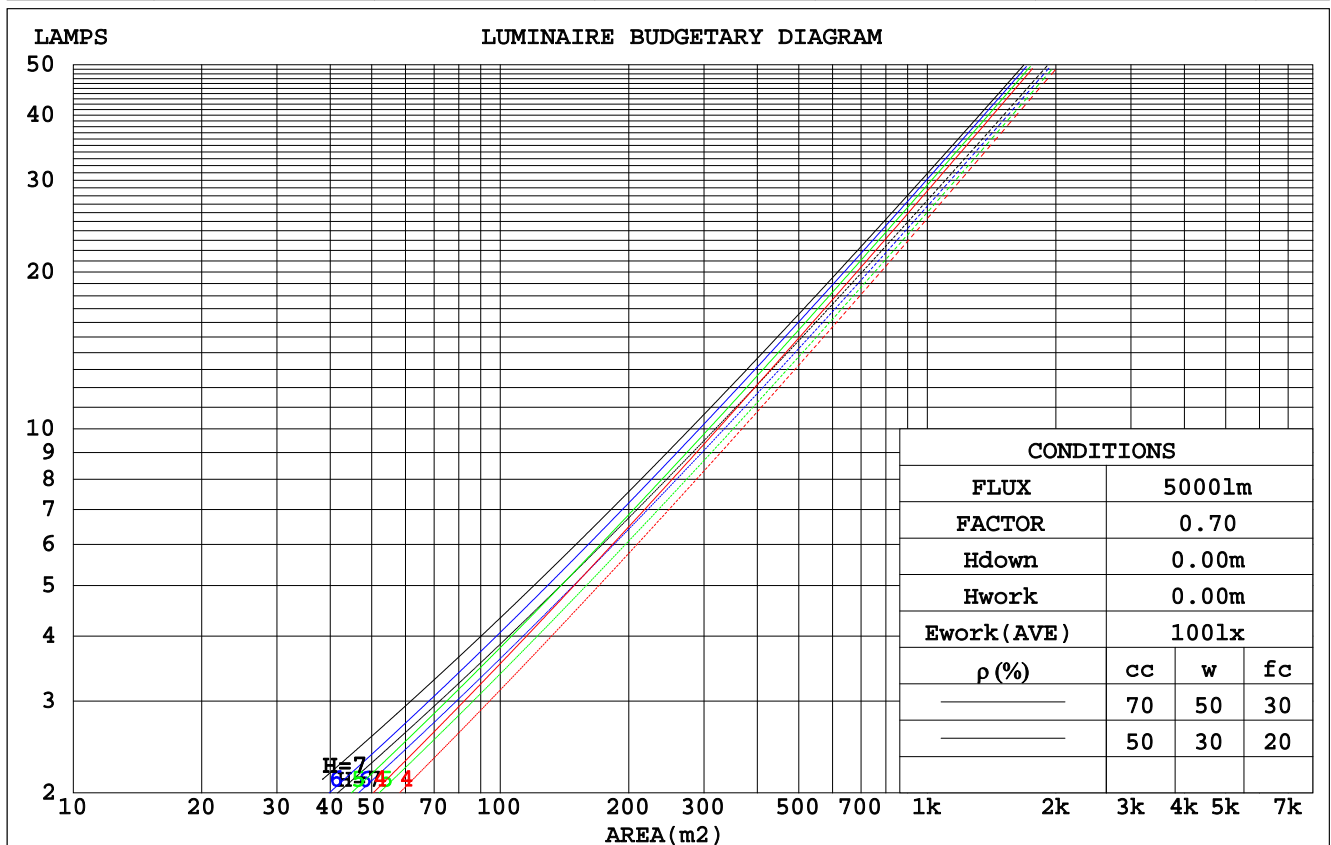
| LUMINANCE cd/(m2) |        |         |
|-------------------|--------|---------|
| G(DEG)            | C0/180 | C90/270 |
| 85                | 0      | 0       |
| 80                | 4      | 6       |
| 75                | 9      | 9       |
| 70                | 16     | 12      |
| 65                | 24     | 16      |
| 60                | 34     | 23      |
| 55                | 50     | 35      |
| 50                | 115    | 59      |
| 45                | 263    | 90      |

C Range: 0 - 360DEG  
 C Interval: 22.5DEG  
 Test Speed: HIGH  
 Temperature: 25.3DEG  
 Operators: Oliver  
 Test Date: 2019-11-15

γ Range: 0 - 180DEG  
 γ Interval: 1.0DEG  
 Test System: EVERFINE GO-R5000\_V2 SYSTEM V2.0.366  
 Humidity: 65.0%  
 Test Distance: 2.499m [K=1.0000]  
 Remarks:

## CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

| 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 | 1.11                            | 1.11 | 1.11 | 1.06 | 1.06 | 1.06 | 1.02 | 1.02 | 1.02 | .00 |
| 1.0  | 1.11                  | 1.08 | 1.06 | 1.08 | 1.06 | 1.04 | 1.04                            | 1.03 | 1.01 | 1.01 | .99  | .98  | .97  | .96  | .95  | .93 |
| 2.0  | 1.03                  | .99  | .95  | 1.01 | .98  | .94  | .98                             | .95  | .92  | .95  | .92  | .90  | .92  | .90  | .88  | .87 |
| 3.0  | .96                   | .91  | .87  | .95  | .90  | .86  | .92                             | .88  | .85  | .90  | .86  | .84  | .87  | .85  | .82  | .81 |
| 4.0  | .90                   | .84  | .80  | .89  | .83  | .80  | .86                             | .82  | .79  | .84  | .81  | .78  | .83  | .79  | .77  | .75 |
| 5.0  | .84                   | .78  | .74  | .83  | .78  | .74  | .81                             | .77  | .73  | .80  | .76  | .72  | .78  | .75  | .72  | .70 |
| 6.0  | .79                   | .73  | .69  | .78  | .73  | .69  | .77                             | .72  | .68  | .75  | .71  | .68  | .74  | .70  | .67  | .66 |
| 7.0  | .75                   | .69  | .64  | .74  | .68  | .64  | .73                             | .68  | .64  | .71  | .67  | .64  | .70  | .66  | .63  | .62 |
| 8.0  | .70                   | .65  | .61  | .70  | .64  | .60  | .69                             | .64  | .60  | .68  | .63  | .60  | .67  | .63  | .60  | .58 |
| 9.0  | .67                   | .61  | .57  | .66  | .61  | .57  | .65                             | .60  | .57  | .64  | .60  | .57  | .64  | .59  | .56  | .55 |
| 10.0 | .63                   | .58  | .54  | .63  | .57  | .54  | .62                             | .57  | .54  | .61  | .57  | .53  | .61  | .56  | .53  | .52 |



C Range: 0 - 360DEG  
 C Interval: 22.5DEG  
 Test Speed: HIGH  
 Temperature: 25.3DEG  
 Operators: Oliver  
 Test Date: 2019-11-15

$\gamma$  Range: 0 - 180DEG  
 $\gamma$  Interval: 1.0DEG  
 Test System: EVERFINE GO-R5000\_V2 SYSTEM V2.0.366  
 Humidity: 65.0%  
 Test Distance: 2.499m [K=1.0000]  
 Remarks:

## WEC AND CCEC

| 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  | .179                  | .102 | .032 | .173 | .098 | .031 | .160                            | .092 | .029 | .148 | .086 | .027 | .138 | .080 | .026 |   |  |
| 2.0  | .172                  | .094 | .029 | .166 | .092 | .028 | .156                            | .086 | .027 | .146 | .082 | .026 | .137 | .077 | .024 |   |  |
| 3.0  | .163                  | .087 | .026 | .159 | .085 | .026 | .150                            | .081 | .025 | .141 | .077 | .024 | .133 | .074 | .023 |   |  |
| 4.0  | .155                  | .081 | .024 | .151 | .079 | .023 | .143                            | .076 | .023 | .136 | .073 | .022 | .129 | .070 | .021 |   |  |
| 5.0  | .148                  | .075 | .022 | .144 | .074 | .022 | .137                            | .071 | .021 | .131 | .069 | .021 | .125 | .067 | .020 |   |  |
| 6.0  | .141                  | .070 | .020 | .137 | .069 | .020 | .131                            | .067 | .020 | .126 | .065 | .019 | .121 | .063 | .019 |   |  |
| 7.0  | .134                  | .066 | .019 | .131 | .065 | .019 | .126                            | .064 | .018 | .121 | .062 | .018 | .116 | .060 | .018 |   |  |
| 8.0  | .128                  | .063 | .018 | .126 | .062 | .017 | .121                            | .060 | .017 | .116 | .059 | .017 | .112 | .058 | .017 |   |  |
| 9.0  | .122                  | .059 | .017 | .120 | .059 | .016 | .116                            | .057 | .016 | .112 | .056 | .016 | .108 | .055 | .016 |   |  |
| 10.0 | .117                  | .056 | .016 | .115 | .056 | .016 | .111                            | .055 | .015 | .108 | .054 | .015 | .104 | .053 | .015 |   |  |

| 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  | .191                  | .191 | .191 | .163 | .163 | .163 | .111                                       | .111 | .111 | .064 | .064 | .064 | .020 | .020 | .020 |   |
| 1.0  | .172                  | .158 | .145 | .147 | .135 | .125 | .101                                       | .093 | .086 | .058 | .054 | .050 | .019 | .017 | .016 |   |
| 2.0  | .157                  | .133 | .113 | .134 | .115 | .098 | .092                                       | .079 | .068 | .053 | .046 | .040 | .017 | .015 | .013 |   |
| 3.0  | .144                  | .114 | .090 | .124 | .098 | .078 | .085                                       | .068 | .055 | .049 | .040 | .032 | .016 | .013 | .011 |   |
| 4.0  | .134                  | .099 | .073 | .115 | .086 | .063 | .079                                       | .060 | .045 | .046 | .035 | .026 | .015 | .011 | .009 |   |
| 5.0  | .126                  | .088 | .060 | .108 | .076 | .052 | .074                                       | .053 | .037 | .043 | .031 | .022 | .014 | .010 | .007 |   |
| 6.0  | .118                  | .079 | .050 | .101 | .068 | .044 | .070                                       | .048 | .031 | .041 | .028 | .018 | .013 | .009 | .006 |   |
| 7.0  | .112                  | .071 | .043 | .096 | .062 | .037 | .066                                       | .043 | .026 | .039 | .025 | .016 | .012 | .008 | .005 |   |
| 8.0  | .106                  | .065 | .037 | .091 | .056 | .032 | .063                                       | .039 | .023 | .037 | .023 | .013 | .012 | .008 | .004 |   |
| 9.0  | .101                  | .060 | .032 | .087 | .052 | .028 | .060                                       | .036 | .020 | .035 | .021 | .012 | .011 | .007 | .004 |   |
| 10.0 | .096                  | .055 | .028 | .083 | .048 | .024 | .057                                       | .034 | .017 | .033 | .020 | .010 | .011 | .007 | .003 |   |

C Range: 0 - 360DEG  
 C Interval: 22.5DEG  
 Test Speed: HIGH  
 Temperature: 25.3DEG  
 Operators: Oliver  
 Test Date: 2019-11-15

γ Range: 0 - 180DEG  
 γ Interval: 1.0DEG  
 Test System: EVERFINE GO-R5000\_V2 SYSTEM V2.0.366  
 Humidity: 65.0%  
 Test Distance: 2.499m [K=1.0000]  
 Remarks:

UGR(Unified Glare Rating) Table

|  |                  |      |      |      |      |                |     |     |     |     |
|--|------------------|------|------|------|------|----------------|-----|-----|-----|-----|
| 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                                      | 11.5             | 12.5 | 11.8 | 12.7 | 12.8 | 4.8            | 5.8 | 5.0 | 5.9 | 6.1 |
| 3H   | 11.4             | 12.3 | 11.7 | 12.5 | 12.7 | 4.9            | 5.7 | 5.1 | 5.9 | 6.1 |
| 4H   | 11.3             | 12.2 | 11.6 | 12.4 | 12.6 | 4.8            | 5.7 | 5.1 | 5.9 | 6.1 |
| 6H   | 11.2             | 12.0 | 11.5 | 12.3 | 12.5 | 4.8            | 5.6 | 5.1 | 5.8 | 6.1 |
| 8H   | 11.2             | 11.9 | 11.5 | 12.2 | 12.5 | 4.8            | 5.5 | 5.1 | 5.8 | 6.0 |
| 12H  | 11.2             | 11.9 | 11.5 | 12.1 | 12.4 | 4.7            | 5.4 | 5.0 | 5.7 | 6.0 |
| 4H 2H  | 11.3             | 12.1 | 11.6 | 12.4 | 12.6 | 4.7            | 5.5 | 5.0 | 5.8 | 6.0 |
| 3H   | 11.2             | 11.9 | 11.5 | 12.2 | 12.4 | 4.8            | 5.5 | 5.1 | 5.8 | 6.1 |
| 4H   | 11.1             | 11.7 | 11.4 | 12.0 | 12.3 | 4.8            | 5.4 | 5.1 | 5.7 | 6.1 |
| 6H   | 11.0             | 11.6 | 11.4 | 11.9 | 12.2 | 4.8            | 5.3 | 5.1 | 5.7 | 6.0 |
| 8H   | 10.9             | 11.5 | 11.3 | 11.8 | 12.2 | 4.7            | 5.3 | 5.1 | 5.6 | 6.0 |
| 12H  | 10.9             | 11.4 | 11.3 | 11.8 | 12.1 | 4.7            | 5.2 | 5.1 | 5.5 | 5.9 |
| 8H 4H  | 10.9             | 11.5 | 11.3 | 11.8 | 12.2 | 4.7            | 5.2 | 5.1 | 5.6 | 5.9 |
| 6H   | 10.9             | 11.3 | 11.3 | 11.7 | 12.1 | 4.7            | 5.1 | 5.1 | 5.5 | 5.9 |
| 8H   | 10.8             | 11.2 | 11.2 | 11.6 | 12.0 | 4.6            | 5.0 | 5.1 | 5.4 | 5.9 |
| 12H  | 10.7             | 11.1 | 11.2 | 11.5 | 12.0 | 4.6            | 4.9 | 5.0 | 5.3 | 5.8 |
| 12H 4H   | 10.9             | 11.4 | 11.3 | 11.8 | 12.1 | 4.6            | 5.1 | 5.0 | 5.5 | 5.9 |
| 6H   | 10.8             | 11.2 | 11.2 | 11.6 | 12.0 | 4.6            | 5.0 | 5.1 | 5.4 | 5.8 |
| 8H   | 10.7             | 11.1 | 11.2 | 11.5 | 12.0 | 4.6            | 4.9 | 5.0 | 5.3 | 5.8 |
| Variations with the observer position at spacings: |                  |      |      |      |      |                |     |     |     |     |
| S = 1.0H   | + 4.5 / -10.9    |      |      |      |      | + 1.7 / - 2.3  |     |     |     |     |
| 1.5H   | + 6.2 / -10.1    |      |      |      |      | + 1.9 / - 2.2  |     |     |     |     |
| 2.0H   | + 8.4 / - 9.7    |      |      |      |      | + 4.3 / - 4.7  |     |     |     |     |

CIE Pub.117, 84.78 lm Total Lamp Luminous Flux Correct ( $8\log(F/F_0) = -8.6$ )

C Range: 0 - 360DEG  
 C Interval: 22.5DEG  
 Test Speed: HIGH  
 Temperature: 25.3DEG  
 Operators: Oliver  
 Test Date: 2019-11-15

γ Range: 0 - 180DEG  
 γ Interval: 1.0DEG  
 Test System: EVERFINE GO-R5000\_V2 SYSTEM V2.0.366  
 Humidity: 65.0%  
 Test Distance: 2.499m [K=1.0000]  
 Remarks:

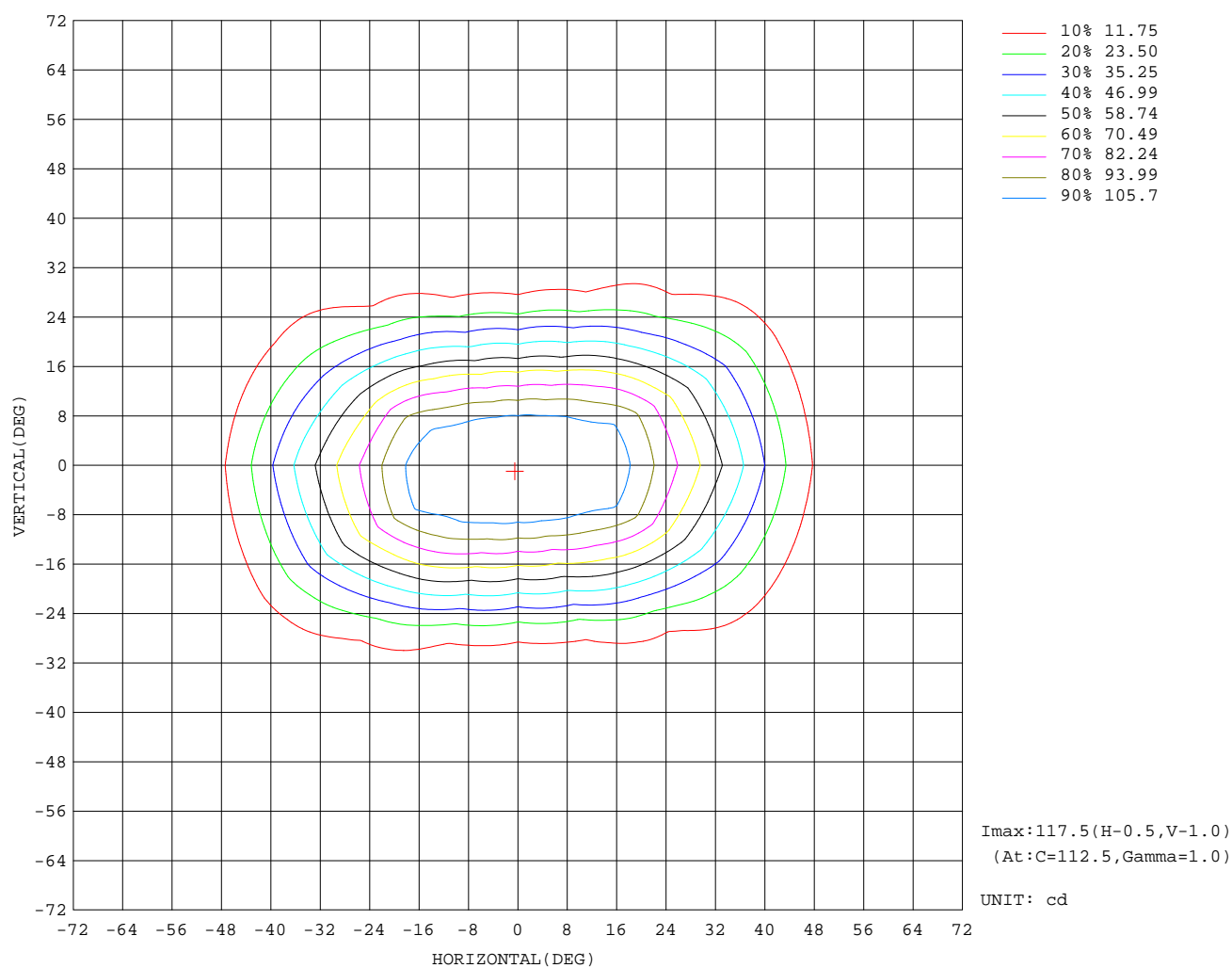
## UTILIZATION FACTORS TABLE

| 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                         | 84  | 77  | 73  | 84        | 77  | 73  | 83  | 77            | 73  | 69     |
| 0.80                             | 92  | 86  | 82  | 91        | 85  | 82  | 90  | 85            | 81  | 77     |
| 1.00                             | 97  | 91  | 87  | 96        | 91  | 87  | 95  | 91            | 86  | 82     |
| 1.25                             | 102   | 96  | 92  | 101       | 95  | 92  | 99  | 94            | 91  | 87     |
| 1.50                             | 105   | 99  | 96  | 103       | 99  | 95  | 101 | 97            | 94  | 90     |
| 2.00                             | 108   | 103 | 100 | 106       | 102 | 99  | 103 | 100           | 98  | 92     |
| 2.50                             | 109   | 105 | 102 | 108       | 104 | 101 | 105 | 102           | 99  | 93     |
| 3.00                             | 111   | 108 | 105 | 109       | 106 | 104 | 106 | 103           | 101 | 95     |
| 4.00                             | 113   | 110 | 108 | 111       | 109 | 107 | 108 | 105           | 104 | 97     |
| 5.00                             | 115   | 112 | 110 | 112       | 110 | 108 | 108 | 107           | 105 | 98     |
| 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: 25.3DEG  
 Operators: Oliver  
 Test Date: 2019-11-15

γ Range: 0 - 180DEG  
 γ Interval: 1.0DEG  
 Test System: EVERFINE GO-R5000\_V2 SYSTEM V2.0.366  
 Humidity: 65.0%  
 Test Distance: 2.499m [K=1.0000]  
 Remarks:

## ISOCANDELA DIAGRAM

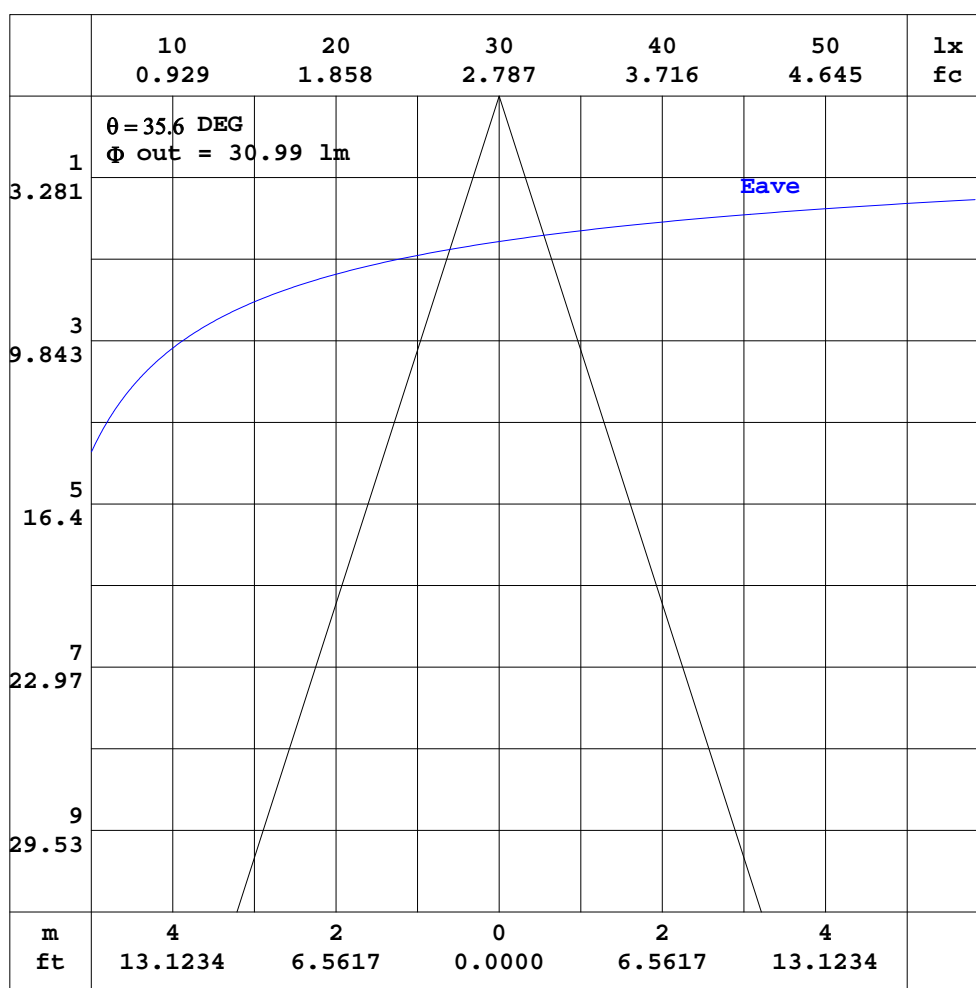


C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:Oliver  
Test Date:2019-11-15

$\gamma$  Range: 0 - 180DEG  
 $\gamma$  Interval: 1.0DEG  
Test System:EVERFINE GO-R5000\_V2 SYSTEM V2.0.366  
Humidity:65.0%  
Test Distance:2.499m [K=1.0000]  
Remarks:



## AAI CURVES

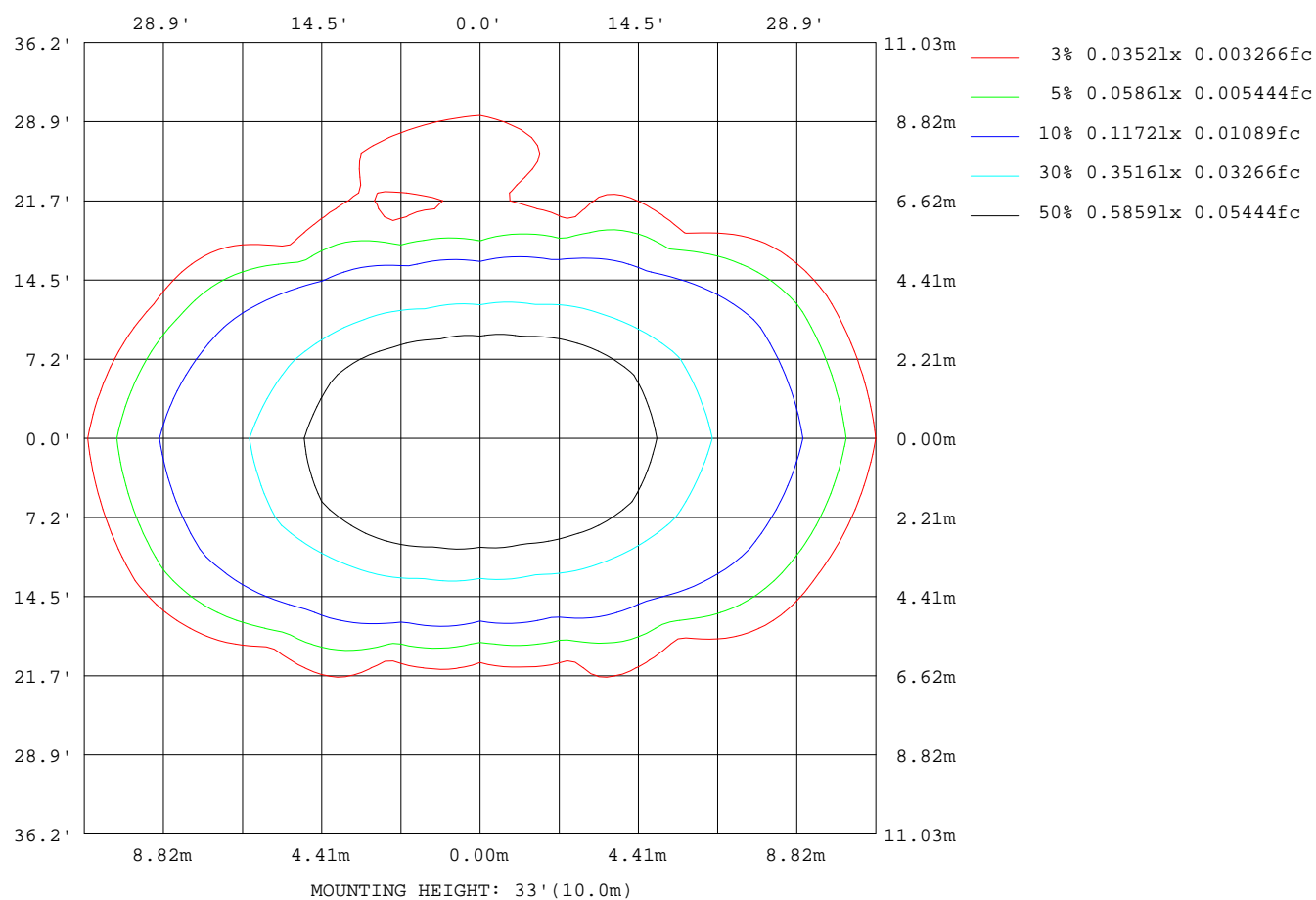


Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG  
 C Interval: 22.5DEG  
 Test Speed: HIGH  
 Temperature: 25.3DEG  
 Operators: Oliver  
 Test Date: 2019-11-15

$\gamma$  Range: 0 - 180DEG  
 $\gamma$  Interval: 1.0DEG  
 Test System: EVERFINE GO-R5000\_V2 SYSTEM V2.0.366  
 Humidity: 65.0%  
 Test Distance: 2.499m [K=1.0000]  
 Remarks:

## ISOLUX DIAGRAM



C Range: 0 - 360DEG  
 C Interval: 22.5DEG  
 Test Speed: HIGH  
 Temperature: 25.3DEG  
 Operators: Oliver  
 Test Date: 2019-11-15

$\gamma$  Range: 0 - 180DEG  
 $\gamma$  Interval: 1.0DEG  
 Test System: EVERFINE GO-R5000\_V2 SYSTEM V2.0.366  
 Humidity: 65.0%  
 Test Distance: 2.499m [K=1.0000]  
 Remarks:

## LED Avg.L Report

|  |                                |                  |
|--|--------------------------------|------------------|
| Test:U:12.025V I:0.4178A P:3.6063W PF:0.7178 Freq:59.99Hz Lamp Flux:84.7834x1 lm |                                |                  |
| NAME: 5221-30BZ(4X3-3W)  | TYPE:Surface-mounted Luminaire | HEIGHT:          |
| SPEC.:   | DIM.:                          | SERIAL No.:      |
| MFR.: WAC Lighting   | SUR.:                          | Shielding Angle: |

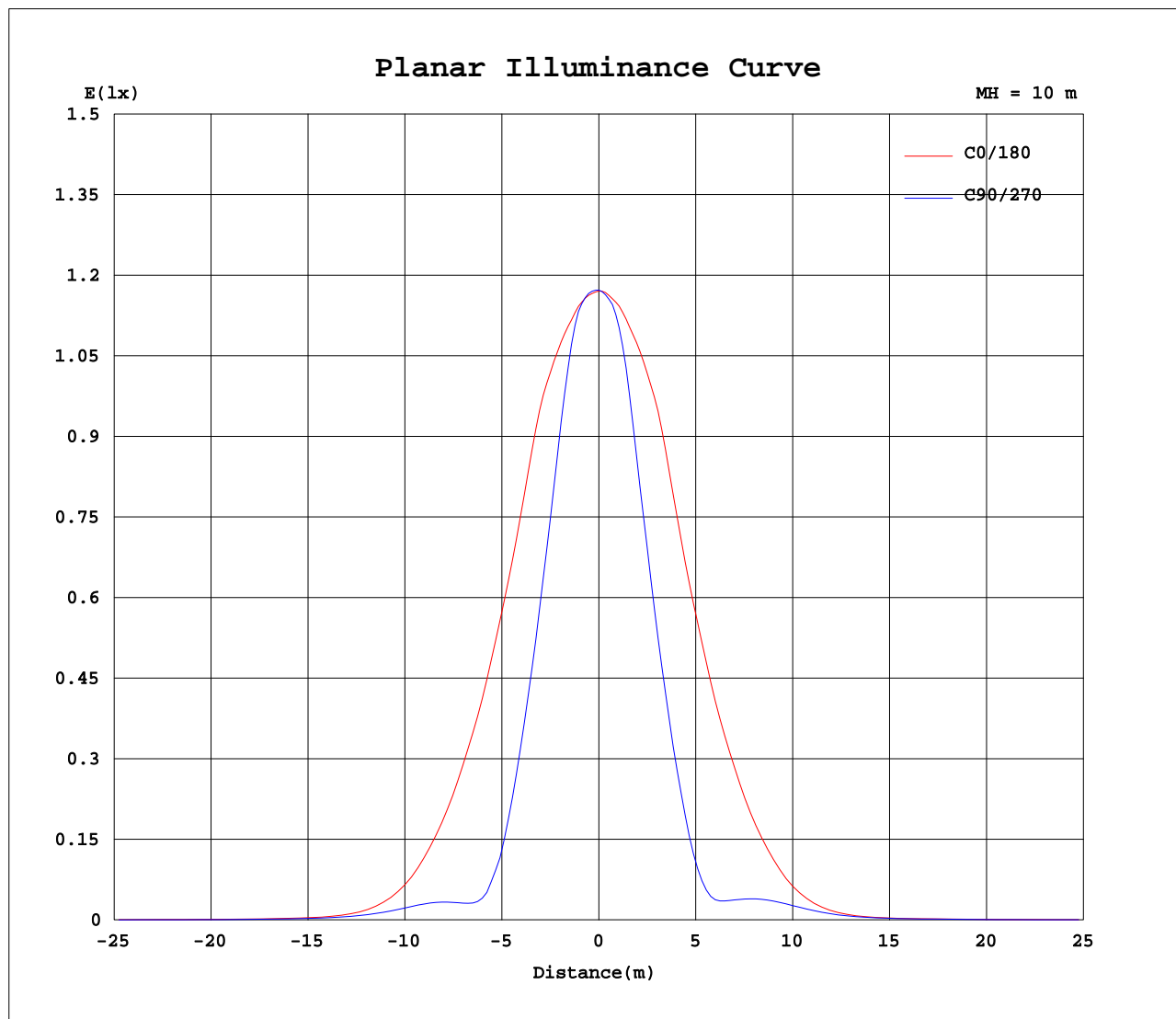
| AvgL           | cd/m2 |
|----------------|-------|
| L_0~180(65)av  | 24    |
| L_0~180(75)av  | 12    |
| L_0~180(85)av  | 0     |
| L_90~270(65)av | 19    |
| L_90~270(75)av | 13    |
| L_90~270(85)av | 0     |
| L_45(65)av     | 14    |
| L_45(75)av     | 9     |
| L_45(85)av     | 0     |

Standard: GB/T 29293-2012

C Range: 0 - 360DEG  
 C Interval: 22.5DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:Oliver  
 Test Date:2019-11-15

γ Range: 0 - 180DEG  
 γ Interval: 1.0DEG  
 Test System:EVERFINE GO-R5000\_V2 SYSTEM V2.0.366  
 Humidity:65.0%  
 Test Distance:2.499m [K=1.0000]  
 Remarks:

## Planar Illuminance Curve



C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: HIGH  
Temperature: 25.3DEG  
Operators: Oliver  
Test Date: 2019-11-15

$\gamma$  Range: 0 - 180DEG  
 $\gamma$  Interval: 1.0DEG  
Test System: EVERFINE GO-R5000\_V2 SYSTEM V2.0.366  
Humidity: 65.0%  
Test Distance: 2.499m [K=1.0000]  
Remarks:

## LUMINOUS DISTRIBUTION INTENSITY DATA

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                 | 117  | 117  | 117  | 117  | 117  | 117   | 117  | 117   | 117  | 117   | 117  | 117   | 117  | 117   | 117  | 117   |  |  |  |
| 5                 | 116  | 117  | 116  | 116  | 116  | 116   | 116  | 117   | 116  | 116   | 115  | 114   | 114  | 114   | 115  | 116   |  |  |  |
| 10                | 114  | 114  | 111  | 105  | 102  | 106   | 112  | 114   | 114  | 113   | 107  | 99.1  | 96.5 | 101   | 108  | 113   |  |  |  |
| 15                | 111  | 110  | 94.8 | 80.8 | 76.8 | 83.4  | 98.9 | 111   | 111  | 106   | 88.4 | 74.9  | 70.6 | 77.1  | 92.7 | 109   |  |  |  |
| 20                | 101  | 97.6 | 74.2 | 55.6 | 50.4 | 58.9  | 79.7 | 100   | 100  | 92.9  | 68.0 | 50.1  | 44.8 | 53.2  | 74.0 | 97.7  |  |  |  |
| 25                | 84.9 | 76.8 | 52.8 | 31.3 | 25.2 | 34.6  | 57.7 | 81.0  | 84.4 | 71.0  | 46.8 | 26.9  | 21.0 | 30.3  | 52.5 | 77.9  |  |  |  |
| 30                | 69.0 | 56.3 | 30.5 | 12.1 | 7.89 | 13.7  | 35.5 | 62.0  | 68.2 | 50.8  | 25.8 | 9.36  | 6.77 | 11.6  | 31.6 | 59.0  |  |  |  |
| 35                | 52.6 | 37.9 | 13.3 | 5.83 | 5.72 | 5.05  | 17.6 | 42.9  | 51.7 | 32.9  | 10.1 | 6.15  | 6.79 | 5.57  | 15.3 | 41.2  |  |  |  |
| 40                | 35.2 | 22.2 | 5.40 | 7.17 | 7.29 | 5.40  | 6.72 | 25.7  | 34.2 | 18.9  | 4.67 | 8.00  | 8.56 | 7.02  | 6.04 | 25.8  |  |  |  |
| 45                | 18.6 | 10.8 | 4.28 | 6.66 | 6.34 | 5.42  | 3.19 | 12.8  | 17.8 | 8.82  | 4.42 | 7.36  | 7.58 | 7.06  | 3.67 | 13.1  |  |  |  |
| 50                | 7.42 | 4.01 | 3.34 | 4.13 | 3.78 | 3.72  | 2.31 | 4.69  | 6.87 | 3.30  | 3.57 | 4.54  | 4.45 | 4.75  | 3.03 | 5.09  |  |  |  |
| 55                | 2.89 | 1.40 | 2.01 | 2.10 | 1.99 | 2.06  | 1.50 | 1.49  | 2.52 | 1.20  | 2.09 | 2.20  | 2.15 | 2.40  | 1.94 | 1.72  |  |  |  |
| 60                | 1.72 | 0.68 | 1.00 | 1.14 | 1.14 | 1.15  | 0.83 | 0.70  | 1.62 | 0.76  | 1.13 | 1.33  | 1.32 | 1.35  | 1.15 | 0.96  |  |  |  |
| 65                | 1.02 | 0.42 | 0.52 | 0.66 | 0.69 | 0.66  | 0.45 | 0.42  | 1.05 | 0.57  | 0.69 | 0.86  | 0.89 | 0.87  | 0.70 | 0.67  |  |  |  |
| 70                | 0.54 | 0.27 | 0.29 | 0.39 | 0.42 | 0.38  | 0.26 | 0.24  | 0.65 | 0.44  | 0.47 | 0.59  | 0.62 | 0.58  | 0.47 | 0.47  |  |  |  |
| 75                | 0.24 | 0.15 | 0.16 | 0.22 | 0.23 | 0.21  | 0.14 | 0.12  | 0.38 | 0.33  | 0.34 | 0.40  | 0.42 | 0.38  | 0.31 | 0.31  |  |  |  |
| 80                | 0.06 | 0.05 | 0.06 | 0.09 | 0.10 | 0.08  | 0.04 | 0.03  | 0.33 | 0.32  | 0.34 | 0.37  | 0.39 | 0.37  | 0.32 | 0.31  |  |  |  |
| 85                | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00  | 0.00 | 0.00  | 0.00 | 0.00  | 0.00 | 0.00  | 0.00 | 0.00  | 0.00 | 0.00  |  |  |  |
| 90                | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00  | 0.00 | 0.00  | 0.00 | 0.00  | 0.00 | 0.00  | 0.00 | 0.00  | 0.00 | 0.00  |  |  |  |
| 95                | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00  | 0.00 | 0.00  | 0.00 | 0.00  | 0.00 | 0.00  | 0.00 | 0.00  | 0.00 | 0.00  |  |  |  |
| 100               | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00  | 0.00 | 0.00  | 0.00 | 0.00  | 0.00 | 0.00  | 0.00 | 0.00  | 0.00 | 0.00  |  |  |  |
| 105               | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00  | 0.00 | 0.00  | 0.00 | 0.00  | 0.00 | 0.00  | 0.00 | 0.00  | 0.00 | 0.00  |  |  |  |
| 110               | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00  | 0.00 | 0.00  | 0.00 | 0.00  | 0.00 | 0.00  | 0.00 | 0.00  | 0.00 | 0.00  |  |  |  |
| 115               | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00  | 0.00 | 0.00  | 0.00 | 0.00  | 0.00 | 0.00  | 0.00 | 0.00  | 0.00 | 0.00  |  |  |  |
| 120               | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00  | 0.00 | 0.00  | 0.04 | 0.04  | 0.06 | 0.07  | 0.07 | 0.04  | 0.07 | 0.06  |  |  |  |
| 125               | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00  | 0.00 | 0.00  | 0.00 | 0.00  | 0.00 | 0.00  | 0.00 | 0.00  | 0.00 | 0.00  |  |  |  |
| 130               | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00  | 0.00 | 0.00  | 0.00 | 0.00  | 0.00 | 0.00  | 0.00 | 0.00  | 0.00 | 0.01  |  |  |  |
| 135               | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00  | 0.00 | 0.01  | 0.01 | 0.01  | 0.01 | 0.00  | 0.00 | 0.00  | 0.01 | 0.01  |  |  |  |
| 140               | 0.01 | 0.01 | 0.01 | 0.00 | 0.01 | 0.01  | 0.01 | 0.01  | 0.02 | 0.02  | 0.01 | 0.01  | 0.01 | 0.01  | 0.02 | 0.02  |  |  |  |
| 145               | 0.02 | 0.02 | 0.01 | 0.01 | 0.02 | 0.01  | 0.02 | 0.01  | 0.03 | 0.03  | 0.03 | 0.02  | 0.03 | 0.03  | 0.03 | 0.03  |  |  |  |
| 150               | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02  | 0.02 | 0.02  | 0.04 | 0.04  | 0.03 | 0.04  | 0.04 | 0.04  | 0.04 | 0.04  |  |  |  |
| 155               | 0.02 | 0.03 | 0.03 | 0.03 | 0.03 | 0.03  | 0.03 | 0.02  | 0.04 | 0.04  | 0.04 | 0.05  | 0.05 | 0.05  | 0.05 | 0.05  |  |  |  |
| 160               | 0.03 | 0.03 | 0.03 | 0.03 | 0.03 | 0.03  | 0.03 | 0.03  | 0.04 | 0.04  | 0.05 | 0.05  | 0.06 | 0.06  | 0.06 | 0.05  |  |  |  |
| 165               | 0.03 | 0.03 | 0.03 | 0.04 | 0.04 | 0.03  | 0.03 | 0.03  | 0.05 | 0.05  | 0.05 | 0.05  | 0.06 | 0.06  | 0.06 | 0.06  |  |  |  |
| 170               | 0.03 | 0.03 | 0.03 | 0.04 | 0.04 | 0.03  | 0.03 | 0.03  | 0.05 | 0.05  | 0.05 | 0.05  | 0.06 | 0.06  | 0.06 | 0.05  |  |  |  |
| 175               | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04  | 0.04 | 0.04  | 0.05 | 0.05  | 0.05 | 0.05  | 0.05 | 0.05  | 0.05 | 0.05  |  |  |  |
| 180               | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 | 0.05  | 0.05 | 0.05  | 0.05 | 0.05  | 0.04 | 0.05  | 0.05 | 0.04  | 0.05 | 0.05  |  |  |  |

C Range: 0 - 360DEG  
 C Interval: 22.5DEG  
 Test Speed: HIGH  
 Temperature: 25.3DEG  
 Operators: Oliver  
 Test Date: 2019-11-15

γ Range: 0 - 180DEG  
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 Test System: EVERFINE GO-R5000\_V2 SYSTEM V2.0.366  
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 Remarks: