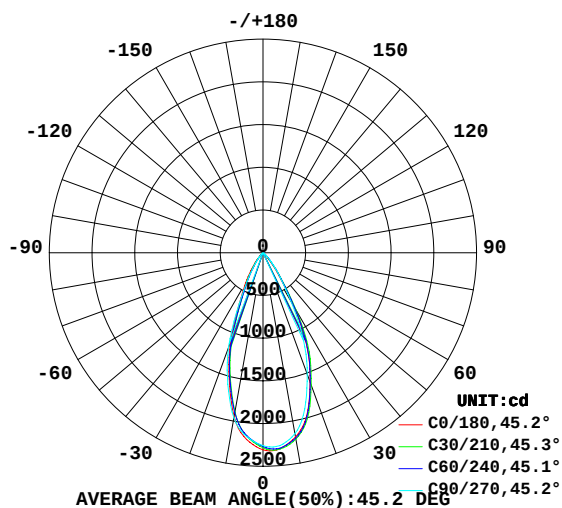


**LUMINAIRE PHOTOMETRIC TEST REPORT**

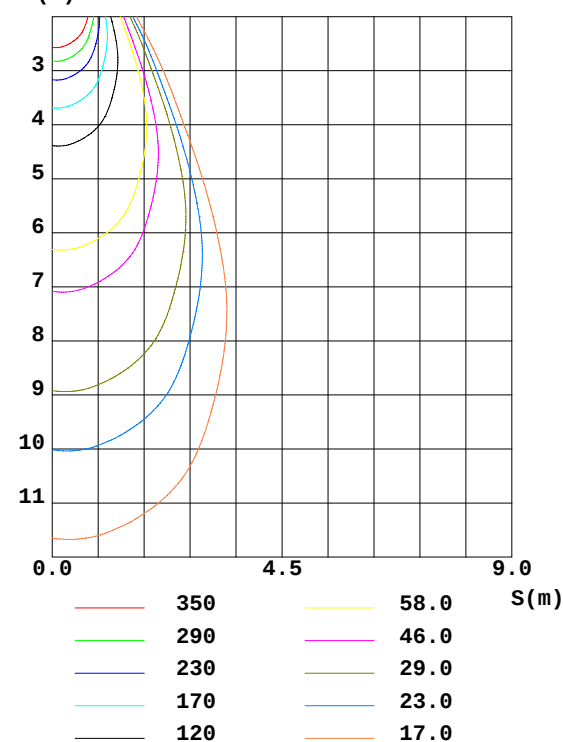
|                                  |        |                   |
|----------------------------------|--------|-------------------|
| NAME: CL-Halo-D18 3000k-RA90-48D | TYPE:  | WEIGHT:           |
| DIM.:                            | SPEC.: | SERIAL No.:       |
| MFR.:                            | SUR.:  | PROTECTION ANGLE: |

| DATA OF LAMP     |         | PHOTOMETRIC DATA Eff: 73.93 lm/W |        |                    |           |
|------------------|---------|----------------------------------|--------|--------------------|-----------|
| MODEL            |         | I <sub>max</sub> (cd)            | 2320   | S/MH(C0/180)       | 0.77      |
| NOMINAL POWER(W) | 18      | LOR(%)                           | 100.0  | S/MH(C90/270)      | 0.76      |
| RATED VOLTAGE(V) | 24      | TOTAL FLUX(lm)                   | 1330.7 | η UP, DN(C0-180)   | 0.2, 55.8 |
| NOMINAL FLUX(lm) | 1330.73 | CIE CLASS                        | DIRECT | η UP, DN(C180-360) | 0.2, 43.9 |
| LAMPS INSIDE     | 1       | η up(%)                          | 0.4    | CIBSE SHR NOM      | 0.50      |
| TEST VOLTAGE(V)  | 24      | η down(%)                        | 99.6   | CIBSE SHR MAX      | 0.70      |

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



C0 PLANE ISOLUX DIAGRAM (UNIT:lx)



C Range: 0 - 360DEG  
C Interval: 10.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:VD  
Test Date:2021-03-08

γ Range: 0 - 180DEG  
γ Interval: 1.0DEG  
Test System:EVERFINE G0-2000B\_V1 SYSTEM V2.0.262  
Humidity:65.0%  
Test Distance:7.000m [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       | 2190                  | 2215   | 2150   | 2028   | 1948   | 1890   | 1963   | 2070   | 0- 10    | 206.6       | 206.6        | 15.5,15.5  |
| 20       | 1615                  | 1640   | 1516   | 1285   | 1110   | 1047   | 1178   | 1417   | 10- 20   | 478.8       | 685.3        | 51.5,51.5  |
| 30       | 711.6                 | 765.6  | 644.8  | 491.4  | 405.4  | 341.2  | 338.9  | 469.5  | 20- 30   | 413.2       | 1099         | 82.6,82.6  |
| 40       | 135.1                 | 178.8  | 185.7  | 153.7  | 111.3  | 85.47  | 78.18  | 88.85  | 30- 40   | 173.9       | 1272         | 95.6,95.6  |
| 50       | 23.30                 | 32.62  | 33.60  | 21.16  | 11.01  | 8.007  | 9.547  | 14.65  | 40- 50   | 45.67       | 1318         | 99,99      |
| 60       | 3.144                 | 3.824  | 3.618  | 2.257  | 1.162  | 0.8389 | 1.071  | 1.967  | 50- 60   | 6.756       | 1325         | 99.6,99.6  |
| 70       | 0.0885                | 0.2112 | 0.0500 | 0      | 0      | 0      | 0      | 0      | 60- 70   | 0.7558      | 1326         | 99.6,99.6  |
| 80       | 0                     | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 70- 80   | 0.0032      | 1326         | 99.6,99.6  |
| 90       | 0                     | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 80- 90   | 0           | 1326         | 99.6,99.6  |
| 100      | 0                     | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 90-100   | 0           | 1326         | 99.6,99.6  |
| 110      | 0                     | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 100-110  | 0           | 1326         | 99.6,99.6  |
| 120      | 0                     | 0      | 0      | 0      | 0.0139 | 0.0231 | 0.0136 | 0.0047 | 110-120  | 0.0008      | 1326         | 99.6,99.6  |
| 130      | 0.1555                | 0.1146 | 0.1334 | 0.1971 | 0.4045 | 0.4680 | 0.4077 | 0.3166 | 120-130  | 0.0867      | 1326         | 99.6,99.6  |
| 140      | 0.8428                | 0.7338 | 0.8266 | 1.069  | 1.428  | 1.537  | 1.389  | 1.119  | 130-140  | 0.4870      | 1326         | 99.7,99.7  |
| 150      | 2.159                 | 1.998  | 2.167  | 2.532  | 2.979  | 3.085  | 2.880  | 2.464  | 140-150  | 1.103       | 1327         | 99.7,99.7  |
| 160      | 3.856                 | 3.676  | 3.795  | 4.112  | 4.630  | 4.652  | 4.416  | 4.037  | 150-160  | 1.519       | 1329         | 99.9,99.9  |
| 170      | 5.457                 | 5.273  | 5.336  | 5.596  | 6.102  | 6.048  | 5.802  | 5.489  | 160-170  | 1.364       | 1330         | 100,100    |
| 180      | 6.564                 | 6.463  | 6.404  | 6.381  | 6.615  | 6.495  | 6.413  | 6.383  | 170-180  | 0.5720      | 1331         | 100,100    |
| DEG      | LUMINOUS INTENSITY:cd |        |        |        |        |        |        |        |          | UNIT:lm     |              |            |

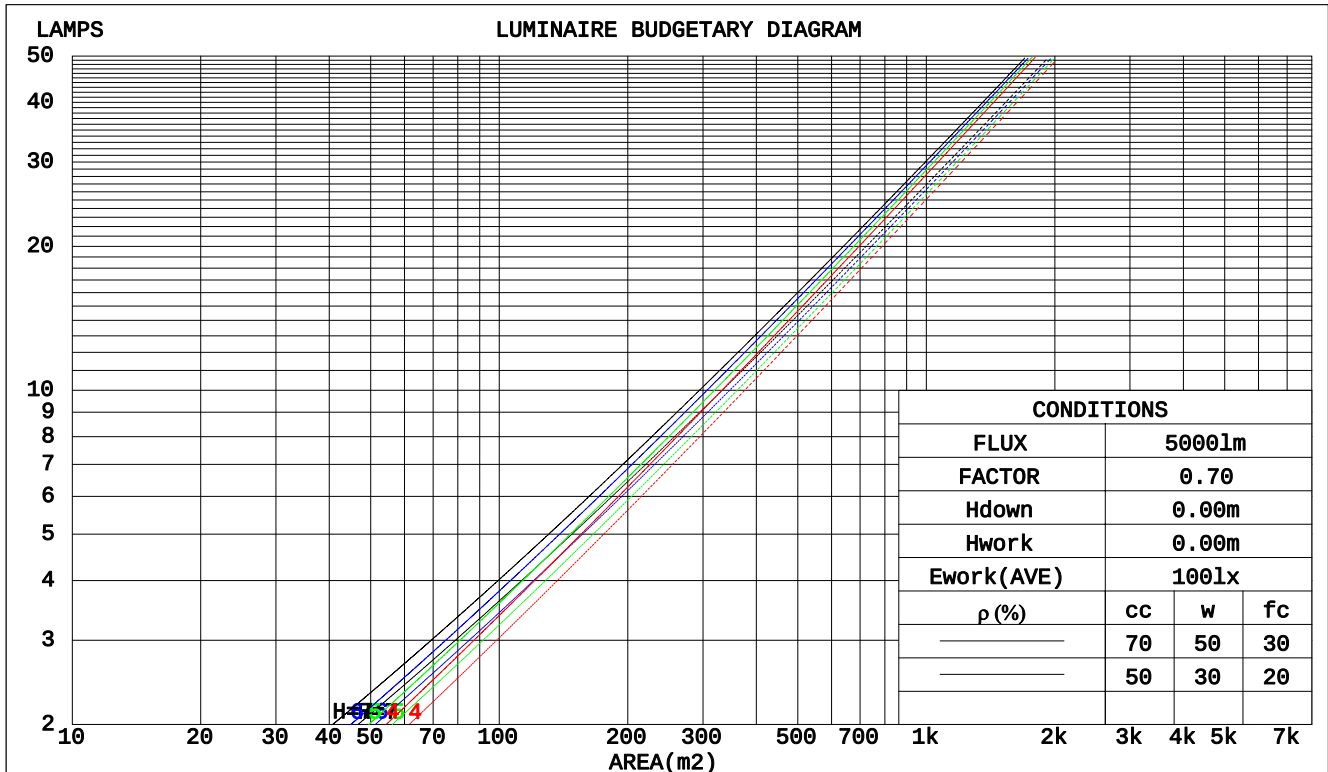
C Range: 0 - 360DEG  
C Interval: 10.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:VD  
Test Date:2021-03-08

$\gamma$  Range: 0 - 180DEG  
 $\gamma$  Interval: 1.0DEG  
 $\gamma$  Test System:EVERFINE G0-2000B\_V1 SYSTEM V2.0.262  
Humidity:65.0%  
Test Distance:7.000m [K=1.0000]  
Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

|                               |        |                   |
|-------------------------------|--------|-------------------|
| NAME: HaLo-D18-3000k-RA90-48D | TYPE:  | WEIGHT:           |
| DIM.:                         | SPEC.: | SERIAL No.:       |
| MFR.: VD                      | SUR.:  | PROTECTION ANGLE: |

| $\rho_{CC}$ | 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         | 1.11                  | 1.09 | 1.07 | 1.09                            | 1.07 | 1.05 | 1.05 | 1.04 | 1.02 | 1.01 | 1.00 | .99  | .98  | .97  | .96  | .94 |
| 2.0         | 1.05                  | 1.01 | .98  | 1.03                            | .99  | .97  | .99  | .97  | .95  | .97  | .94  | .93  | .94  | .92  | .91  | .89 |
| 3.0         | .98                   | .94  | .90  | .97                             | .93  | .90  | .94  | .91  | .88  | .92  | .89  | .87  | .90  | .87  | .85  | .84 |
| 4.0         | .93                   | .88  | .84  | .92                             | .87  | .84  | .90  | .86  | .83  | .88  | .84  | .82  | .86  | .83  | .81  | .79 |
| 5.0         | .88                   | .83  | .79  | .87                             | .82  | .78  | .85  | .81  | .78  | .84  | .80  | .77  | .82  | .79  | .76  | .75 |
| 6.0         | .83                   | .78  | .74  | .82                             | .77  | .74  | .81  | .77  | .73  | .80  | .76  | .73  | .78  | .75  | .72  | .71 |
| 7.0         | .79                   | .74  | .70  | .78                             | .73  | .70  | .77  | .73  | .69  | .76  | .72  | .69  | .75  | .71  | .69  | .67 |
| 8.0         | .75                   | .70  | .66  | .75                             | .70  | .66  | .74  | .69  | .66  | .73  | .68  | .65  | .72  | .68  | .65  | .64 |
| 9.0         | .72                   | .66  | .63  | .71                             | .66  | .63  | .70  | .66  | .62  | .69  | .65  | .62  | .69  | .65  | .62  | .61 |
| 10.0        | .68                   | .63  | .60  | .68                             | .63  | .60  | .67  | .63  | .60  | .66  | .62  | .59  | .66  | .62  | .59  | .58 |



C Range: 0 - 360DEG  
C Interval: 10.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:VD  
Test Date:2021-03-08

$\gamma$  Range: 0 - 180DEG  
 $\gamma$  Interval: 1.0DEG  
Test System:EVERFINE G0-2000B\_V1 SYSTEM V2.0.262  
Humidity:65.0%  
Test Distance:7.000m [K=1.0000]  
Remarks:

WEC AND CCEC

|                               |        |                   |
|-------------------------------|--------|-------------------|
| NAME: Halo-D18-3000k-RA90-48D | TYPE:  | WEIGHT:           |
| DIM.:                         | SPEC.: | SERIAL No.:       |
| MFR.: VD                      | SUR.:  | PROTECTION ANGLE: |

| $\rho_{CC}$ | 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         | .163                  | .093 | .029 | .156 | .089 | .028 | .144                            | .082 | .026 | .132 | .076 | .024 | .121 | .070 | .023 |   |  |
| 2.0         | .155                  | .085 | .026 | .149 | .082 | .025 | .139                            | .077 | .024 | .129 | .072 | .023 | .120 | .068 | .021 |   |  |
| 3.0         | .147                  | .078 | .023 | .142 | .076 | .023 | .133                            | .072 | .022 | .125 | .068 | .021 | .117 | .065 | .020 |   |  |
| 4.0         | .140                  | .073 | .021 | .136 | .071 | .021 | .128                            | .068 | .020 | .121 | .065 | .020 | .114 | .062 | .019 |   |  |
| 5.0         | .133                  | .068 | .020 | .130 | .066 | .019 | .123                            | .064 | .019 | .116 | .061 | .018 | .111 | .059 | .018 |   |  |
| 6.0         | .127                  | .064 | .018 | .124 | .063 | .018 | .118                            | .060 | .018 | .112 | .058 | .017 | .107 | .056 | .017 |   |  |
| 7.0         | .121                  | .060 | .017 | .119 | .059 | .017 | .113                            | .057 | .017 | .109 | .056 | .016 | .104 | .054 | .016 |   |  |
| 8.0         | .116                  | .057 | .016 | .114 | .056 | .016 | .109                            | .055 | .016 | .105 | .053 | .015 | .101 | .052 | .015 |   |  |
| 9.0         | .112                  | .054 | .015 | .109 | .053 | .015 | .105                            | .052 | .015 | .101 | .051 | .015 | .098 | .050 | .014 |   |  |
| 10.0        | .107                  | .051 | .014 | .105 | .051 | .014 | .102                            | .050 | .014 | .098 | .049 | .014 | .095 | .048 | .014 |   |  |

| 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             | .193                  | .193 | .193 | .165 | .165 | .165 | .113                                       | .113 | .113 | .065 | .065 | .065 | .021 | .021 | .021 |   |
| 1.0             | .173                  | .160 | .149 | .148 | .138 | .128 | .101                                       | .095 | .089 | .058 | .055 | .052 | .019 | .018 | .017 |   |
| 2.0             | .157                  | .136 | .118 | .134 | .117 | .102 | .092                                       | .081 | .071 | .053 | .047 | .042 | .017 | .015 | .014 |   |
| 3.0             | .144                  | .116 | .095 | .123 | .100 | .082 | .085                                       | .070 | .058 | .049 | .041 | .034 | .016 | .013 | .011 |   |
| 4.0             | .133                  | .102 | .078 | .114 | .088 | .067 | .078                                       | .061 | .047 | .045 | .036 | .028 | .015 | .012 | .009 |   |
| 5.0             | .124                  | .090 | .065 | .106 | .078 | .056 | .073                                       | .054 | .040 | .042 | .032 | .024 | .014 | .010 | .008 |   |
| 6.0             | .116                  | .080 | .055 | .100 | .070 | .048 | .069                                       | .049 | .034 | .040 | .029 | .020 | .013 | .009 | .007 |   |
| 7.0             | .109                  | .073 | .047 | .094 | .063 | .041 | .065                                       | .044 | .029 | .038 | .026 | .017 | .012 | .009 | .006 |   |
| 8.0             | .103                  | .066 | .041 | .089 | .057 | .035 | .062                                       | .040 | .025 | .036 | .024 | .015 | .012 | .008 | .005 |   |
| 9.0             | .098                  | .061 | .036 | .085 | .053 | .031 | .059                                       | .037 | .022 | .034 | .022 | .013 | .011 | .007 | .004 |   |
| 10.0            | .094                  | .056 | .032 | .081 | .049 | .028 | .056                                       | .034 | .020 | .033 | .020 | .012 | .011 | .007 | .004 |   |

C Range: 0 - 360DEG  
C Interval: 10.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:VD  
Test Date:2021-03-08

$\gamma$  Range: 0 - 180DEG  
 $\gamma$  Interval: 1.0DEG  
 $\gamma$  Test System:EVERFINE G0-2000B\_V1 SYSTEM V2.0.262  
Humidity:65.0%  
Test Distance:7.000m [K=1.0000]  
Remarks:

### Uncorrected UGR Table

|                                                    |               |     |     |     |     |                  |     |     |     |     |                   |  |  |  |  |
|----------------------------------------------------|---------------|-----|-----|-----|-----|------------------|-----|-----|-----|-----|-------------------|--|--|--|--|
| NAME: Halo-D18-3000k-RA90-48D                      |               |     |     |     |     | TYPE:            |     |     |     |     | WEIGHT:           |  |  |  |  |
| DIM.:                                              |               |     |     |     |     | SPEC.:           |     |     |     |     | SERIAL No.:       |  |  |  |  |
| MFR.: VD                                           |               |     |     |     |     | SUR.:            |     |     |     |     | PROTECTION 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                                      | 8.3           | 9.1 | 8.5 | 9.3 | 9.5 | 8.4              | 9.3 | 8.6 | 9.4 | 9.6 |                   |  |  |  |  |
| 3H                                                 | 8.1           | 8.9 | 8.4 | 9.1 | 9.3 | 8.2              | 9.0 | 8.5 | 9.2 | 9.4 |                   |  |  |  |  |
| 4H                                                 | 8.0           | 8.8 | 8.3 | 9.0 | 9.2 | 8.2              | 8.9 | 8.4 | 9.1 | 9.3 |                   |  |  |  |  |
| 6H                                                 | 7.9           | 8.6 | 8.2 | 8.9 | 9.1 | 8.1              | 8.8 | 8.4 | 9.0 | 9.2 |                   |  |  |  |  |
| 8H                                                 | 7.9           | 8.5 | 8.2 | 8.8 | 9.1 | 8.0              | 8.7 | 8.3 | 8.9 | 9.2 |                   |  |  |  |  |
| 12H                                                | 7.8           | 8.5 | 8.2 | 8.7 | 9.0 | 8.0              | 8.6 | 8.3 | 8.9 | 9.2 |                   |  |  |  |  |
| 4H 2H                                              | 8.0           | 8.8 | 8.3 | 9.0 | 9.2 | 8.2              | 8.9 | 8.4 | 9.1 | 9.3 |                   |  |  |  |  |
| 3H                                                 | 7.8           | 8.5 | 8.2 | 8.8 | 9.0 | 8.0              | 8.6 | 8.3 | 8.9 | 9.2 |                   |  |  |  |  |
| 4H                                                 | 7.7           | 8.3 | 8.1 | 8.6 | 8.9 | 7.9              | 8.5 | 8.2 | 8.8 | 9.1 |                   |  |  |  |  |
| 6H                                                 | 7.6           | 8.2 | 8.0 | 8.5 | 8.8 | 7.8              | 8.3 | 8.2 | 8.6 | 9.0 |                   |  |  |  |  |
| 8H                                                 | 7.6           | 8.1 | 8.0 | 8.4 | 8.8 | 7.7              | 8.2 | 8.1 | 8.6 | 8.9 |                   |  |  |  |  |
| 12H                                                | 7.5           | 8.0 | 8.0 | 8.4 | 8.7 | 7.7              | 8.1 | 8.1 | 8.5 | 8.9 |                   |  |  |  |  |
| 8H 4H                                              | 7.6           | 8.1 | 8.0 | 8.4 | 8.8 | 7.7              | 8.2 | 8.1 | 8.6 | 8.9 |                   |  |  |  |  |
| 6H                                                 | 7.5           | 7.9 | 7.9 | 8.3 | 8.7 | 7.6              | 8.0 | 8.1 | 8.4 | 8.8 |                   |  |  |  |  |
| 8H                                                 | 7.4           | 7.8 | 7.9 | 8.2 | 8.6 | 7.6              | 7.9 | 8.0 | 8.3 | 8.8 |                   |  |  |  |  |
| 12H                                                | 7.4           | 7.7 | 7.8 | 8.1 | 8.6 | 7.5              | 7.8 | 8.0 | 8.2 | 8.7 |                   |  |  |  |  |
| 12H 4H                                             | 7.5           | 8.0 | 8.0 | 8.4 | 8.7 | 7.7              | 8.1 | 8.1 | 8.5 | 8.9 |                   |  |  |  |  |
| 6H                                                 | 7.4           | 7.8 | 7.9 | 8.2 | 8.6 | 7.6              | 7.9 | 8.0 | 8.3 | 8.8 |                   |  |  |  |  |
| 8H                                                 | 7.4           | 7.7 | 7.8 | 8.1 | 8.6 | 7.5              | 7.8 | 8.0 | 8.2 | 8.7 |                   |  |  |  |  |
| Variations with the observer position at spacings: |               |     |     |     |     |                  |     |     |     |     |                   |  |  |  |  |
| S = 1.0H                                           | + 3.0 / -15.7 |     |     |     |     | + 3.2 / -15.4    |     |     |     |     |                   |  |  |  |  |
| 1.5H                                               | + 5.2 / -11.2 |     |     |     |     | + 5.2 / -11.7    |     |     |     |     |                   |  |  |  |  |
| 2.0H                                               | + 6.3 / -12.2 |     |     |     |     | + 7.0 / -14.2    |     |     |     |     |                   |  |  |  |  |

CIE Pub.117 Corrected 1331 lm Total Lamp Luminous Flux.(8log(F/F0) = 1.0)

C Range: 0 - 360DEG  
C Interval: 10.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:VD  
Test Date:2021-03-08

γ Range: 0 - 180DEG  
γ Interval: 1.0DEG  
Test System:EVERFINE G0-2000B\_V1 SYSTEM V2.0.262  
Humidity:65.0%  
Test Distance:7.000m [K=1.0000]  
Remarks:

UTILIZATION FACTORS TABLE

|                               |        |                   |
|-------------------------------|--------|-------------------|
| NAME: Halo-D18-3000k-RA90-48D | TYPE:  | WEIGHT:           |
| DIM.:                         | SPEC.: | SERIAL No.:       |
| MFR.: VD                      | SUR.:  | PROTECTION ANGLE: |

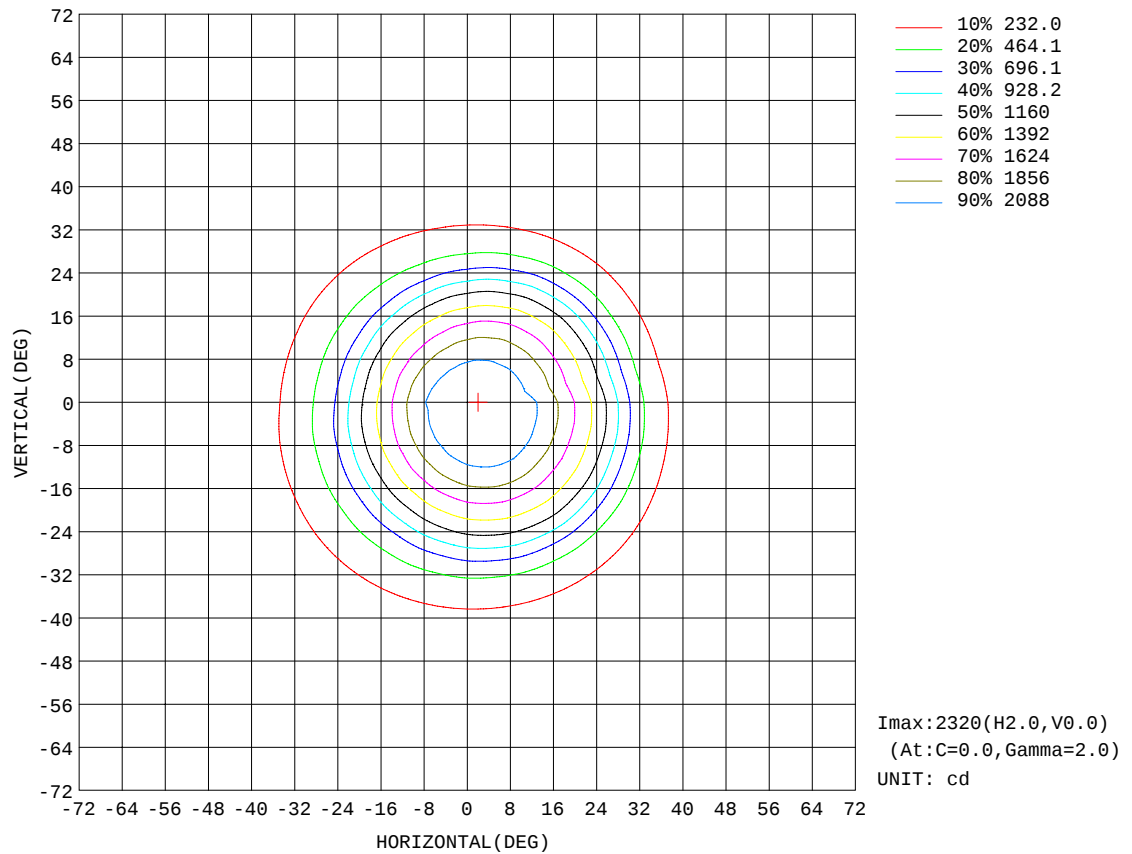
| REFLECTANCE                      |                                                     |     |           |     |     |     |     |               |     |        |
|----------------------------------|-----------------------------------------------------|-----|-----------|-----|-----|-----|-----|---------------|-----|--------|
| 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) $k(RI) \times RCR = 5$ |     |           |     |     |     |     |               |     |        |
| $k = 0.60$                       | 89                                                  | 83  | 79        | 88  | 83  | 79  | 88  | 82            | 79  | 75     |
| 0.80                             | 96                                                  | 91  | 87        | 95  | 90  | 87  | 94  | 90            | 86  | 83     |
| 1.00                             | 100                                                 | 95  | 92        | 99  | 95  | 91  | 98  | 94            | 91  | 87     |
| 1.25                             | 104                                                 | 99  | 96        | 103 | 99  | 96  | 101 | 97            | 95  | 91     |
| 1.50                             | 107                                                 | 102 | 99        | 105 | 101 | 99  | 103 | 100           | 97  | 93     |
| 2.00                             | 109                                                 | 105 | 102       | 108 | 104 | 101 | 105 | 102           | 100 | 95     |
| 2.50                             | 111                                                 | 107 | 104       | 109 | 106 | 103 | 106 | 103           | 101 | 96     |
| 3.00                             | 112                                                 | 109 | 106       | 110 | 107 | 105 | 107 | 105           | 103 | 97     |
| 4.00                             | 114                                                 | 111 | 109       | 112 | 110 | 108 | 108 | 107           | 105 | 98     |
| 5.00                             | 115                                                 | 113 | 111       | 113 | 111 | 110 | 109 | 108           | 107 | 99     |
| ROOM INDEX                       | UF(total)                                           |     |           |     |     |     |     |               |     | Direct |
| According to DIN EN 13032-2 2004 |                                                     |     | Suspended |     |     |     |     | SHRNOM = 1.25 |     |        |

C Range: 0 - 360DEG  
C Interval: 10.0DEG  
Test Speed: HIGH  
Temperature: 25.3DEG  
Operators: VD  
Test Date: 2021-03-08

$\gamma$  Range: 0 - 180DEG  
 $\gamma$  Interval: 1.0DEG  
 $\gamma$  Test System: EVERFINE G0-2000B\_V1 SYSTEM V2.0.262  
Humidity: 65.0%  
Test Distance: 7.000m [K=1.0000]  
Remarks:

### ISOCANDELA DIAGRAM

|                               |        |                   |
|-------------------------------|--------|-------------------|
| NAME: Ha1o-D18-3000k-RA90-48D | TYPE:  | WEIGHT:           |
| DIM.:                         | SPEC.: | SERIAL No.:       |
| MFR.: VD                      | SUR.:  | PROTECTION ANGLE: |

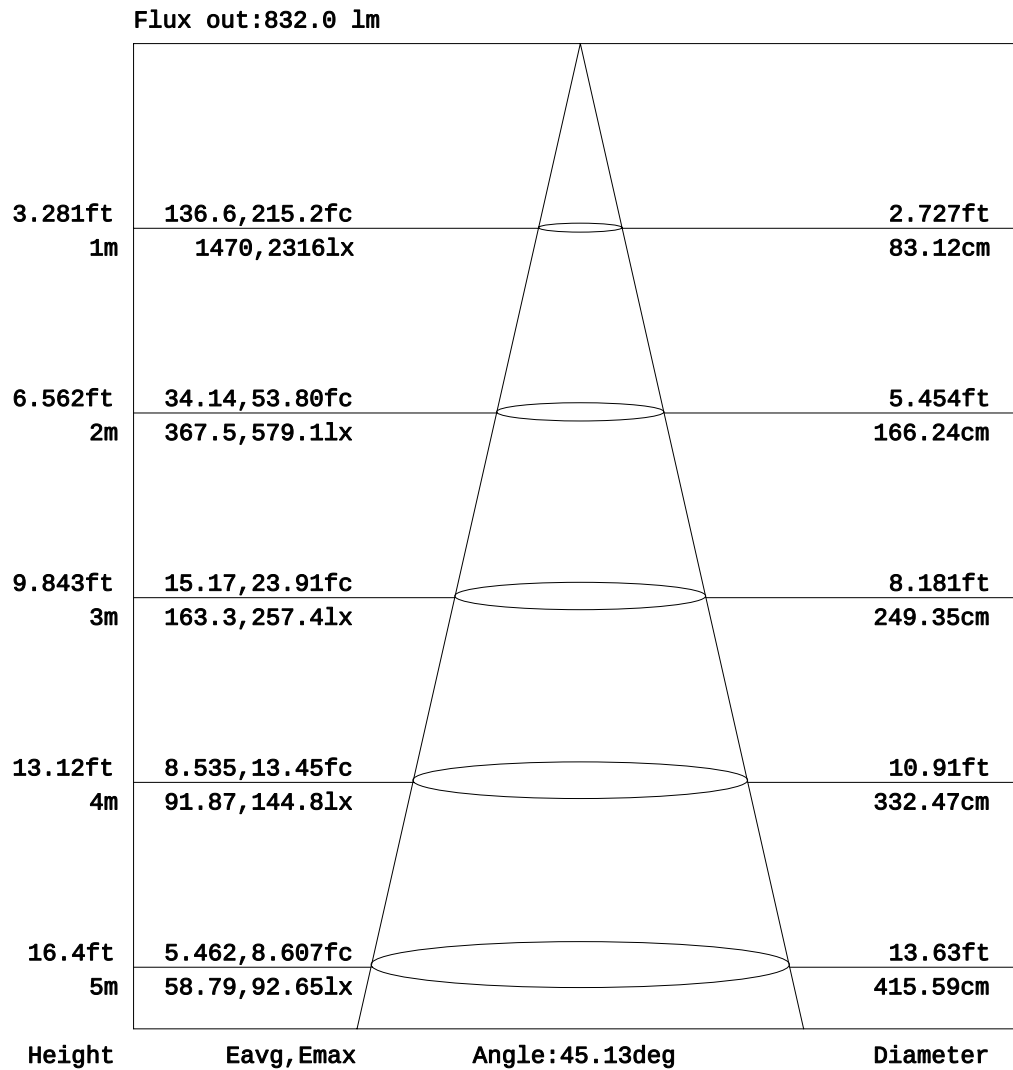


C Range: 0 - 360DEG  
C Interval: 10.0DEG  
Test Speed: HIGH  
Temperature: 25.3DEG  
Operators: VD  
Test Date: 2021-03-08

γ Range: 0 - 180DEG  
γ Interval: 1.0DEG  
Test System: EVERFINE G0-2000B\_V1 SYSTEM V2.0.262  
Humidity: 65.0%  
Test Distance: 7.000m [K=1.0000]  
Remarks:

### AAI Figure

|                               |        |                   |
|-------------------------------|--------|-------------------|
| NAME: HaLo-D18-3000k-RA90-48D | TYPE:  | WEIGHT:           |
| DIM.:                         | SPEC.: | SERIAL No.:       |
| MFR.: VD                      | SUR.:  | PROTECTION ANGLE: |



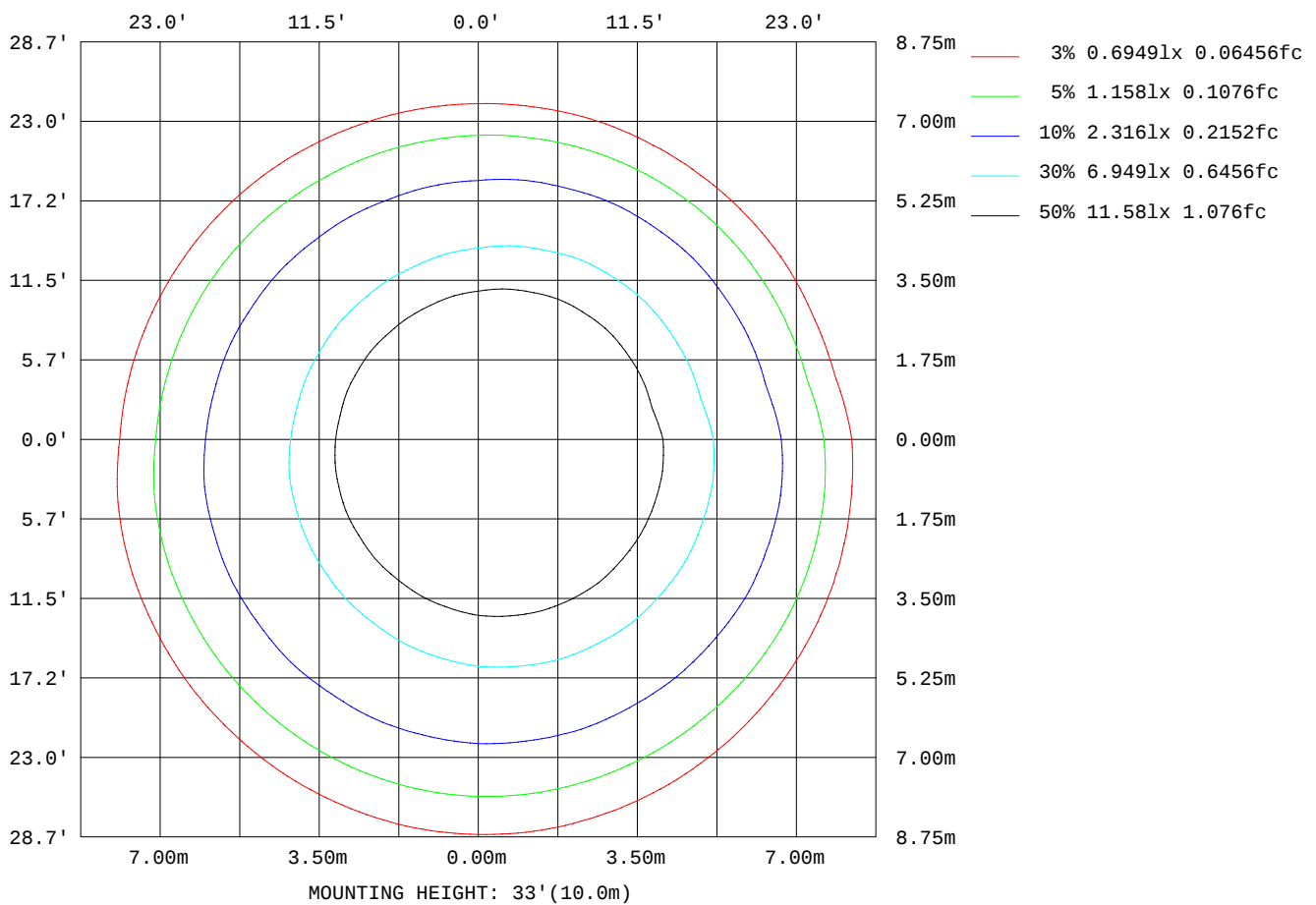
Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG  
C Interval: 10.0DEG  
Test Speed: HIGH  
Temperature: 25.3DEG  
Operators: VD  
Test Date: 2021-03-08

γ Range: 0 - 180DEG  
γ Interval: 1.0DEG  
Test System: EVERFINE G0-2000B\_V1 SYSTEM V2.0.262  
Humidity: 65.0%  
Test Distance: 7.000m [K=1.0000]  
Remarks:

### ISOLUX DIAGRAM

|                               |        |                   |
|-------------------------------|--------|-------------------|
| NAME: Ha1o-D18-3000k-RA90-48D | TYPE:  | WEIGHT:           |
| DIM.:                         | SPEC.: | SERIAL No.:       |
| MFR.: VD                      | SUR.:  | PROTECTION ANGLE: |



C Range: 0 - 360DEG  
C Interval: 10.0DEG  
Test Speed: HIGH  
Temperature: 25.3DEG  
Operators: VD  
Test Date: 2021-03-08

γ Range: 0 - 180DEG  
γ Interval: 1.0DEG  
Test System: EVERFINE G0-2000B\_V1 SYSTEM V2.0.262  
Humidity: 65.0%  
Test Distance: 7.000m [K=1.0000]  
Remarks:

### Average Luminance Table(CIBSE)

|                               |        |                   |
|-------------------------------|--------|-------------------|
| NAME: Halo-D18-3000k-RA90-48D | TYPE:  | WEIGHT:           |
| DIM.:                         | SPEC.: | SERIAL No.:       |
| MFR.: VD                      | SUR.:  | PROTECTION ANGLE: |

| Parameter description for average Luminance            | Symbol | Value         | Unit     |
|--------------------------------------------------------|--------|---------------|----------|
| Luminance in Azimuth Plane                             | Bc     | refer Table 2 | cd/sq.m. |
| Intensity at angle Gamma in given azimuth plane        | I      | from data     | cd/klm   |
| Number of lamps                                        | N      | 1             |          |
| Output of each lamp(initial lumens as specified)       | F      | 1330.73       | lm       |
| Multiplying factor                                     | K      | 1             |          |
| Luminous area in horizontal plane used in calculations | A      | 0.1           | sq.m.    |
| Angle to the downward vertical from light centre       | Gamma  | from data     | deg      |

Table 1. Calculation parameters for determination of CIBSE LG3:1996 Average Luminance

| G   | C plane(deg) |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|--------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| deg | 0            | 10  | 20  | 30  | 40  | 50  | 60  | 70  | 80  | 90  | 100 | 110 | 120 | 130 | 140 | 150 | 160 | 170 | 180 |
| 55  | 140          | 152 | 159 | 171 | 177 | 187 | 186 | 191 | 184 | 181 | 165 | 153 | 134 | 120 | 104 | 93  | 81  | 74  | 63  |
| 60  | 63           | 68  | 70  | 75  | 75  | 78  | 76  | 77  | 74  | 72  | 66  | 62  | 54  | 49  | 41  | 37  | 32  | 28  | 23  |
| 65  | 26           | 28  | 30  | 32  | 33  | 33  | 33  | 31  | 29  | 27  | 24  | 21  | 17  | 14  | 11  | 8   | 7   | 4   | 2   |
| 70  | 3            | 3   | 5   | 5   | 6   | 6   | 6   | 4   | 4   | 1   | 1   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   |
| 75  | 0            | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   |
| 80  | 0            | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   |
| 85  | 0            | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   |

Table 2. Average Luminance(cd/sq.m.) for defined C plane,Gamma angle

| CIBSE Category | Gamma (deg) | Average Luminance  |                   | Patch Luminance  |                   |
|----------------|-------------|--------------------|-------------------|------------------|-------------------|
|                |             | maximum calculated | specified maximum | maximum measured | specified maximum |
| Category 1     | 55 to 90    | 191                | 200               | ---              | 500               |
| Category 2     | 65 to 90    | 33                 | 200               | ---              | 500               |
| Category 3     | 75 to 90    | 0                  | 200               | ---              | 500               |

Table 3. Tabulation of Average and Patch Luminance(cd/sq.m.) for defined CIBSE categories

No match

C Range: 0 - 360DEG  
C Interval: 10.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:VD  
Test Date:2021-03-08

γ Range: 0 - 180DEG  
γ Interval: 1.0DEG  
Test System:EVERFINE G0-2000B\_V1 SYSTEM V2.0.262  
Humidity:65.0%  
Test Distance:7.000m [K=1.0000]  
Remarks:

### Average Luminance Table(CIBSE)

|                               |        |                   |
|-------------------------------|--------|-------------------|
| NAME: Halo-D18-3000k-RA90-48D | TYPE:  | WEIGHT:           |
| DIM.:                         | SPEC.: | SERIAL No.:       |
| MFR.: VD                      | SUR.:  | PROTECTION ANGLE: |

| Parameter description for average Luminance            | Symbol | Value         | Unit     |
|--------------------------------------------------------|--------|---------------|----------|
| Luminance in Azimuth Plane                             | Bc     | refer Table 2 | cd/sq.m. |
| Intensity at angle Gamma in given azimuth plane        | I      | from data     | cd/klm   |
| Number of lamps                                        | N      | 1             |          |
| Output of each lamp(initial lumens as specified)       | F      | 1330.73       | lm       |
| Multiplying factor                                     | K      | 1             |          |
| Luminous area in horizontal plane used in calculations | A      | 0.1           | sq.m.    |
| Angle to the downward vertical from light centre       | Gamma  | from data     | deg      |

Table 1. Calculation parameters for determination of CIBSE LG3:2001 Average Luminance

| G<br>deg | C plane(deg) |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|----------|--------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|          | 0            | 10  | 20  | 30  | 40  | 50  | 60  | 70  | 80  | 90  | 100 | 110 | 120 | 130 | 140 | 150 | 160 | 170 | 180 |
| 55       | 140          | 152 | 159 | 171 | 177 | 187 | 186 | 191 | 184 | 181 | 165 | 153 | 134 | 120 | 104 | 93  | 81  | 74  | 63  |
| 60       | 63           | 68  | 70  | 75  | 75  | 78  | 76  | 77  | 74  | 72  | 66  | 62  | 54  | 49  | 41  | 37  | 32  | 28  | 23  |
| 65       | 26           | 28  | 30  | 32  | 33  | 33  | 33  | 31  | 29  | 27  | 24  | 21  | 17  | 14  | 11  | 8   | 7   | 4   | 2   |
| 70       | 3            | 3   | 5   | 5   | 6   | 6   | 6   | 4   | 4   | 1   | 1   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   |
| 75       | 0            | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   |
| 80       | 0            | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   |
| 85       | 0            | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   |

Table 2. Average Luminance(cd/sq.m.) for defined C plane,Gamma angle

| range<br>(deg) | Maximum<br>measured | Average Luminance(cd/sq.m)                             |                                     |                                    |                                    |
|----------------|---------------------|--------------------------------------------------------|-------------------------------------|------------------------------------|------------------------------------|
|                |                     | Maximum limit for screen type & software category used |                                     |                                    |                                    |
|                |                     | Type I,II screen<br>Some neg.s'ware                    | Type I,II screen<br>Only pos.s'ware | Type III screen<br>Some neg.s'ware | Type III screen<br>Only pos.s'ware |
| 55 to 90       | 191                 | 1000                                                   | 1500                                | 200                                | 500                                |
| 65 to 90       | 33                  | 1000                                                   | 1500                                | 200                                | 500                                |

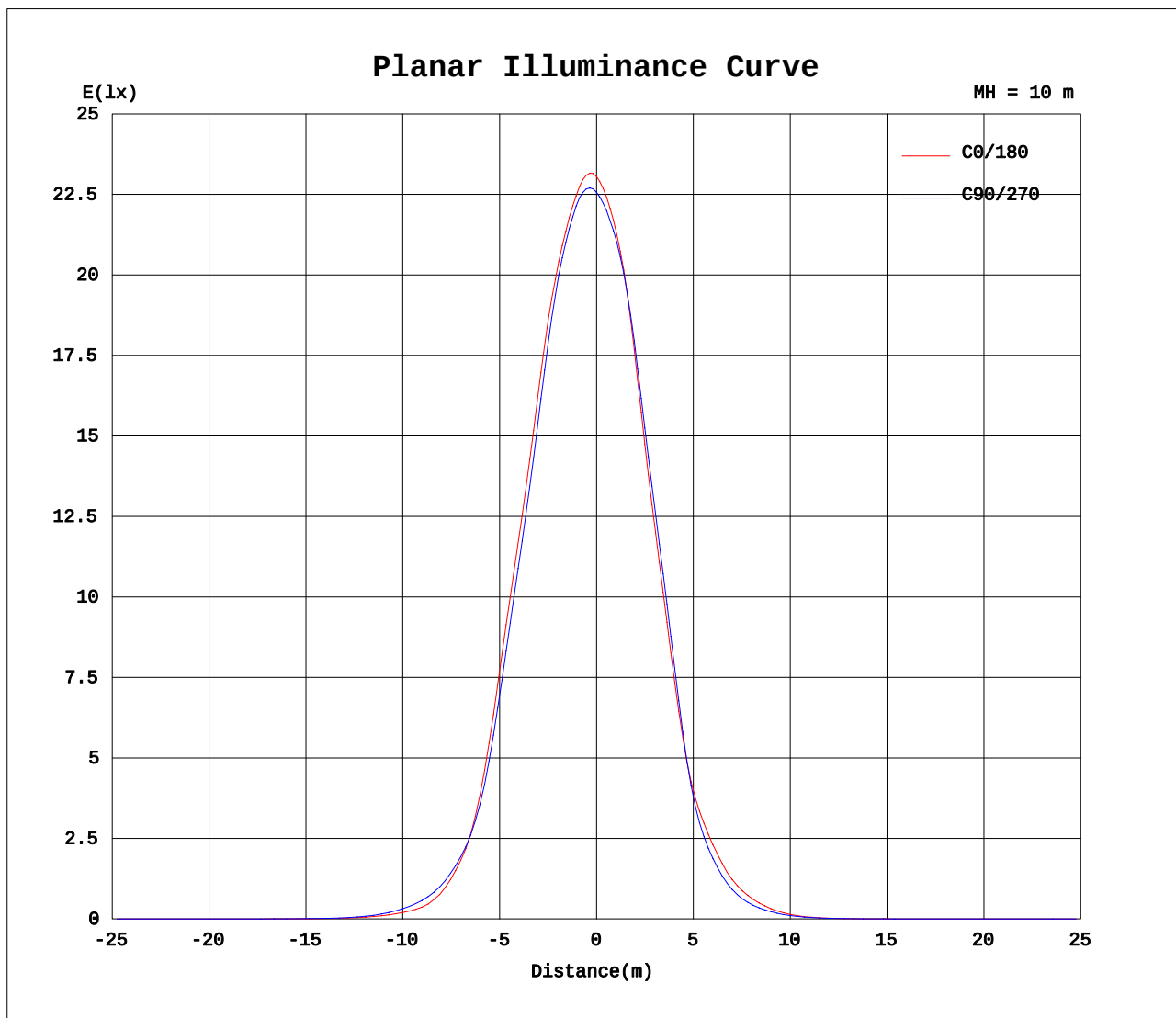
Table 3. Tabulation of average luminance(cd/sq.m.) and luminance limits

The luminaire satisfies the specified luminance criteria for  
Negative Software with Type I & II Screen(Good to Moderate treatment).

C Range: 0 - 360DEG  
C Interval: 10.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:VD  
Test Date:2021-03-08

γ Range: 0 - 180DEG  
γ Interval: 1.0DEG  
Test System:EVERFINE G0-2000B\_V1 SYSTEM V2.0.262  
Humidity:65.0%  
Test Distance:7.000m [K=1.0000]  
Remarks:

## Planar Illuminance Curve



C Range: 0 - 360DEG  
C Interval: 10.0DEG  
Test Speed: HIGH  
Temperature: 25.3DEG  
Operators: VD  
Test Date: 2021-03-08

$\gamma$  Range: 0 - 180DEG  
 $\gamma$  Interval: 1.0DEG  
Test System: EVERFINE G0-2000B\_V1 SYSTEM V2.0.262  
Humidity: 65.0%  
Test Distance: 7.000m [K=1.0000]  
Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

|                               |        |                   |
|-------------------------------|--------|-------------------|
| NAME: Halo-D18-3000k-RA90-48D | TYPE:  | WEIGHT:           |
| DIM.:                         | SPEC.: | SERIAL No.:       |
| MFR.: VD                      | SUR.:  | PROTECTION ANGLE: |

Table--1

UNIT: cd

| C(°) | 0    | 10   | 20   | 30   | 40   | 50   | 60   | 70   | 80   | 90   | 100  | 110  | 120  | 130  | 140  | 150  | 160  | 170  | 180  |
|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 0    | 2306 | 2297 | 2291 | 2283 | 2278 | 2271 | 2268 | 2263 | 2261 | 2258 | 2256 | 2255 | 2255 | 2255 | 2256 | 2257 | 2259 | 2260 | 2306 |
| 5    | 2301 | 2304 | 2305 | 2306 | 2304 | 2301 | 2295 | 2289 | 2278 | 2266 | 2250 | 2238 | 2223 | 2212 | 2199 | 2188 | 2175 | 2167 | 2195 |
| 10   | 2190 | 2200 | 2205 | 2215 | 2216 | 2215 | 2203 | 2191 | 2171 | 2150 | 2124 | 2099 | 2066 | 2042 | 2014 | 1994 | 1967 | 1953 | 1948 |
| 15   | 1978 | 1997 | 2000 | 2011 | 2007 | 2007 | 1986 | 1964 | 1925 | 1891 | 1840 | 1795 | 1740 | 1704 | 1652 | 1620 | 1578 | 1553 | 1531 |
| 20   | 1615 | 1638 | 1641 | 1648 | 1640 | 1639 | 1616 | 1593 | 1553 | 1516 | 1459 | 1413 | 1353 | 1311 | 1258 | 1225 | 1186 | 1156 | 1110 |
| 25   | 1227 | 1261 | 1269 | 1281 | 1273 | 1268 | 1236 | 1209 | 1163 | 1118 | 1052 | 994  | 927  | 880  | 823  | 781  | 737  | 709  | 657  |
| 30   | 712  | 750  | 760  | 778  | 768  | 763  | 734  | 715  | 674  | 645  | 600  | 570  | 530  | 506  | 477  | 462  | 441  | 429  | 405  |
| 35   | 333  | 357  | 366  | 375  | 371  | 370  | 364  | 364  | 356  | 352  | 339  | 330  | 313  | 303  | 286  | 274  | 259  | 245  | 224  |
| 40   | 135  | 145  | 156  | 167  | 176  | 182  | 186  | 188  | 189  | 186  | 182  | 174  | 167  | 158  | 150  | 141  | 133  | 125  | 111  |
| 45   | 57.9 | 62.9 | 67.1 | 73.5 | 78.0 | 83.5 | 87.0 | 90.7 | 91.0 | 90.6 | 86.4 | 82.7 | 75.4 | 70.4 | 63.6 | 58.7 | 52.7 | 48.5 | 40.7 |
| 50   | 23.3 | 25.6 | 27.3 | 30.1 | 31.5 | 33.8 | 34.3 | 35.4 | 34.4 | 33.6 | 30.7 | 28.6 | 25.0 | 22.7 | 19.6 | 17.4 | 15.0 | 13.5 | 11.0 |
| 55   | 8.05 | 8.74 | 9.13 | 9.82 | 10.1 | 10.7 | 10.7 | 11.0 | 10.6 | 10.4 | 9.47 | 8.78 | 7.71 | 6.89 | 5.97 | 5.32 | 4.67 | 4.22 | 3.63 |
| 60   | 3.14 | 3.41 | 3.51 | 3.73 | 3.75 | 3.90 | 3.81 | 3.87 | 3.70 | 3.62 | 3.31 | 3.09 | 2.69 | 2.44 | 2.07 | 1.84 | 1.58 | 1.41 | 1.16 |
| 65   | 1.08 | 1.19 | 1.28 | 1.36 | 1.39 | 1.40 | 1.38 | 1.32 | 1.24 | 1.15 | 1.02 | 0.87 | 0.73 | 0.58 | 0.46 | 0.33 | 0.29 | 0.19 | 0.08 |
| 70   | 0.09 | 0.10 | 0.17 | 0.17 | 0.22 | 0.20 | 0.21 | 0.15 | 0.13 | 0.05 | 0.04 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 75   | 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 | 0.00 | 0.00 | 0.00 |
| 80   | 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 | 0.00 | 0.00 | 0.00 |
| 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 | 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 | 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 | 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 | 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 | 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 | 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 | 0.00 | 0.00 | 0.00 |
| 120  | 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 | 0.00 | 0.00 | 0.01 |
| 125  | 0.00 | 0.03 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.02 | 0.00 | 0.05 | 0.01 | 0.08 | 0.15 |
| 130  | 0.16 | 0.18 | 0.11 | 0.15 | 0.10 | 0.13 | 0.08 | 0.12 | 0.08 | 0.13 | 0.10 | 0.16 | 0.13 | 0.20 | 0.19 | 0.25 | 0.24 | 0.31 | 0.40 |
| 135  | 0.43 | 0.43 | 0.37 | 0.39 | 0.33 | 0.36 | 0.32 | 0.36 | 0.33 | 0.40 | 0.38 | 0.45 | 0.46 | 0.54 | 0.54 | 0.62 | 0.64 | 0.72 | 0.83 |
| 140  | 0.84 | 0.84 | 0.77 | 0.78 | 0.72 | 0.75 | 0.71 | 0.76 | 0.75 | 0.83 | 0.84 | 0.93 | 0.95 | 1.05 | 1.09 | 1.18 | 1.21 | 1.29 | 1.43 |
| 145  | 1.43 | 1.41 | 1.34 | 1.34 | 1.27 | 1.30 | 1.28 | 1.34 | 1.33 | 1.42 | 1.46 | 1.57 | 1.61 | 1.72 | 1.77 | 1.89 | 1.92 | 2.02 | 2.16 |
| 150  | 2.16 | 2.13 | 2.04 | 2.05 | 1.98 | 2.01 | 1.99 | 2.06 | 2.07 | 2.17 | 2.21 | 2.32 | 2.38 | 2.50 | 2.56 | 2.68 | 2.73 | 2.82 | 2.98 |
| 155  | 2.99 | 2.96 | 2.87 | 2.86 | 2.81 | 2.83 | 2.81 | 2.87 | 2.88 | 2.98 | 3.02 | 3.13 | 3.19 | 3.30 | 3.37 | 3.48 | 3.52 | 3.62 | 3.81 |
| 160  | 3.86 | 3.83 | 3.75 | 3.73 | 3.67 | 3.68 | 3.66 | 3.71 | 3.71 | 3.79 | 3.84 | 3.93 | 3.97 | 4.08 | 4.14 | 4.25 | 4.30 | 4.40 | 4.63 |
| 165  | 4.69 | 4.67 | 4.57 | 4.56 | 4.49 | 4.51 | 4.46 | 4.50 | 4.49 | 4.57 | 4.60 | 4.70 | 4.74 | 4.85 | 4.91 | 5.03 | 5.09 | 5.20 | 5.41 |
| 170  | 5.46 | 5.44 | 5.34 | 5.35 | 5.26 | 5.28 | 5.22 | 5.27 | 5.26 | 5.34 | 5.35 | 5.45 | 5.47 | 5.57 | 5.62 | 5.73 | 5.76 | 5.87 | 6.10 |
| 175  | 6.11 | 6.12 | 6.03 | 6.05 | 5.96 | 5.98 | 5.92 | 5.96 | 5.94 | 6.01 | 6.00 | 6.08 | 6.07 | 6.16 | 6.15 | 6.23 | 6.26 | 6.36 | 6.56 |
| 180  | 6.56 | 6.58 | 6.52 | 6.53 | 6.46 | 6.47 | 6.43 | 6.43 | 6.40 | 6.40 | 6.39 | 6.39 | 6.38 | 6.38 | 6.38 | 6.39 | 6.41 | 6.44 | 6.61 |

C Range: 0 - 360DEG  
C Interval: 10.0DEG  
Test Speed: HIGH  
Temperature: 25.3DEG  
Operators: VD  
Test Date: 2021-03-08

γ Range: 0 - 180DEG  
γ Interval: 1.0DEG  
Test System: EVERFINE G0-2000B\_V1 SYSTEM V2.0.262  
Humidity: 65.0%  
Test Distance: 7.000m [K=1.0000]  
Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

|                               |        |                   |
|-------------------------------|--------|-------------------|
| NAME: HaLo-D18-3000k-RA90-48D | TYPE:  | WEIGHT:           |
| DIM.:                         | SPEC.: | SERIAL No.:       |
| MFR.: VD                      | SUR.:  | PROTECTION ANGLE: |

Table--2

UNIT: cd

| C(°)  | 190  | 200  | 210  | 220  | 230  | 240  | 250  | 260  | 270  | 280  | 290  | 300  | 310  | 320  | 330  | 340  | 350  |  |  |
|-------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|--|--|
| γ (°) | 190  | 200  | 210  | 220  | 230  | 240  | 250  | 260  | 270  | 280  | 290  | 300  | 310  | 320  | 330  | 340  | 350  |  |  |
| 0     | 2297 | 2291 | 2283 | 2278 | 2271 | 2268 | 2263 | 2261 | 2258 | 2256 | 2255 | 2255 | 2255 | 2256 | 2257 | 2259 | 2260 |  |  |
| 5     | 2178 | 2170 | 2159 | 2153 | 2147 | 2151 | 2150 | 2157 | 2162 | 2173 | 2181 | 2192 | 2197 | 2207 | 2214 | 2225 | 2233 |  |  |
| 10    | 1921 | 1910 | 1892 | 1892 | 1889 | 1902 | 1913 | 1944 | 1963 | 1994 | 2015 | 2042 | 2058 | 2082 | 2096 | 2109 | 2116 |  |  |
| 15    | 1503 | 1498 | 1484 | 1487 | 1487 | 1506 | 1523 | 1562 | 1593 | 1644 | 1687 | 1737 | 1770 | 1809 | 1834 | 1867 | 1883 |  |  |
| 20    | 1071 | 1060 | 1042 | 1049 | 1044 | 1067 | 1090 | 1139 | 1178 | 1241 | 1287 | 1352 | 1392 | 1442 | 1468 | 1504 | 1523 |  |  |
| 25    | 620  | 605  | 583  | 579  | 569  | 581  | 591  | 630  | 662  | 727  | 784  | 867  | 924  | 990  | 1034 | 1085 | 1117 |  |  |
| 30    | 385  | 373  | 356  | 348  | 335  | 333  | 327  | 333  | 339  | 360  | 380  | 415  | 447  | 492  | 526  | 575  | 611  |  |  |
| 35    | 211  | 200  | 190  | 181  | 175  | 169  | 166  | 165  | 168  | 172  | 180  | 191  | 206  | 223  | 239  | 263  | 279  |  |  |
| 40    | 103  | 98.0 | 91.5 | 88.0 | 82.9 | 80.7 | 78.2 | 78.6 | 78.2 | 79.8 | 80.9 | 84.3 | 86.5 | 91.2 | 95.1 | 101  | 107  |  |  |
| 45    | 36.3 | 34.2 | 31.3 | 30.1 | 28.5 | 28.7 | 28.3 | 29.8 | 30.7 | 32.9 | 34.2 | 36.9 | 38.7 | 41.3 | 43.4 | 46.3 | 48.8 |  |  |
| 50    | 9.66 | 9.06 | 8.40 | 8.15 | 7.86 | 8.04 | 8.21 | 8.90 | 9.55 | 10.7 | 11.6 | 13.0 | 13.9 | 15.4 | 16.3 | 17.8 | 18.9 |  |  |
| 55    | 3.24 | 3.12 | 2.89 | 2.82 | 2.72 | 2.79 | 2.84 | 3.10 | 3.35 | 3.75 | 4.09 | 4.66 | 5.04 | 5.54 | 5.89 | 6.35 | 6.70 |  |  |
| 60    | 1.04 | 0.96 | 0.90 | 0.85 | 0.83 | 0.83 | 0.88 | 0.96 | 1.07 | 1.24 | 1.41 | 1.64 | 1.84 | 2.10 | 2.25 | 2.46 | 2.61 |  |  |
| 65    | 0.06 | 0.00 | 0.01 | 0.00 | 0.01 | 0.00 | 0.03 | 0.01 | 0.08 | 0.09 | 0.19 | 0.25 | 0.39 | 0.48 | 0.60 | 0.69 | 0.82 |  |  |
| 70    | 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 | 0.01 |  |  |
| 75    | 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 | 0.00 |  |  |
| 80    | 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 | 0.00 |  |  |
| 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 | 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 | 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 | 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 | 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 | 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 | 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 | 0.00 |  |  |
| 120   | 0.00 | 0.02 | 0.00 | 0.05 | 0.00 | 0.06 | 0.01 | 0.05 | 0.01 | 0.05 | 0.00 | 0.03 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 |  |  |
| 125   | 0.12 | 0.17 | 0.15 | 0.20 | 0.16 | 0.20 | 0.16 | 0.20 | 0.15 | 0.19 | 0.13 | 0.16 | 0.10 | 0.12 | 0.07 | 0.10 | 0.05 |  |  |
| 130   | 0.39 | 0.45 | 0.43 | 0.48 | 0.45 | 0.49 | 0.44 | 0.47 | 0.41 | 0.43 | 0.37 | 0.37 | 0.31 | 0.33 | 0.26 | 0.28 | 0.22 |  |  |
| 135   | 0.83 | 0.90 | 0.88 | 0.93 | 0.91 | 0.93 | 0.88 | 0.89 | 0.82 | 0.81 | 0.74 | 0.73 | 0.65 | 0.65 | 0.56 | 0.57 | 0.50 |  |  |
| 140   | 1.43 | 1.50 | 1.50 | 1.55 | 1.52 | 1.54 | 1.48 | 1.47 | 1.39 | 1.36 | 1.27 | 1.24 | 1.13 | 1.11 | 1.01 | 1.01 | 0.92 |  |  |
| 145   | 2.19 | 2.24 | 2.25 | 2.29 | 2.27 | 2.28 | 2.22 | 2.19 | 2.10 | 2.04 | 1.93 | 1.88 | 1.76 | 1.71 | 1.60 | 1.57 | 1.49 |  |  |
| 150   | 3.00 | 3.06 | 3.05 | 3.10 | 3.07 | 3.08 | 3.02 | 2.97 | 2.88 | 2.82 | 2.69 | 2.61 | 2.49 | 2.43 | 2.33 | 2.28 | 2.19 |  |  |
| 155   | 3.81 | 3.87 | 3.86 | 3.90 | 3.87 | 3.88 | 3.80 | 3.78 | 3.67 | 3.61 | 3.48 | 3.41 | 3.30 | 3.23 | 3.12 | 3.07 | 2.98 |  |  |
| 160   | 4.60 | 4.66 | 4.64 | 4.68 | 4.63 | 4.63 | 4.54 | 4.53 | 4.42 | 4.36 | 4.24 | 4.18 | 4.06 | 4.01 | 3.91 | 3.87 | 3.78 |  |  |
| 165   | 5.39 | 5.43 | 5.39 | 5.43 | 5.37 | 5.36 | 5.28 | 5.24 | 5.14 | 5.09 | 4.96 | 4.91 | 4.80 | 4.75 | 4.66 | 4.64 | 4.56 |  |  |
| 170   | 6.07 | 6.11 | 6.04 | 6.08 | 6.01 | 6.02 | 5.92 | 5.91 | 5.80 | 5.75 | 5.64 | 5.60 | 5.50 | 5.48 | 5.39 | 5.38 | 5.31 |  |  |
| 175   | 6.51 | 6.54 | 6.47 | 6.50 | 6.43 | 6.45 | 6.36 | 6.37 | 6.27 | 6.28 | 6.17 | 6.17 | 6.08 | 6.08 | 6.00 | 6.03 | 5.97 |  |  |
| 180   | 6.59 | 6.57 | 6.53 | 6.51 | 6.48 | 6.46 | 6.44 | 6.44 | 6.41 | 6.41 | 6.39 | 6.39 | 6.38 | 6.39 | 6.38 | 6.40 | 6.42 |  |  |

C Range: 0 - 360DEG  
C Interval: 10.0DEG  
Test Speed: HIGH  
Temperature: 25.3DEG  
Operators: VD  
Test Date: 2021-03-08

γ Range: 0 - 180DEG  
γ Interval: 1.0DEG  
Test System: EVERFINE G0-2000B\_V1 SYSTEM V2.0.262  
Humidity: 65.0%  
Test Distance: 7.000m [K=1.0000]  
Remarks: