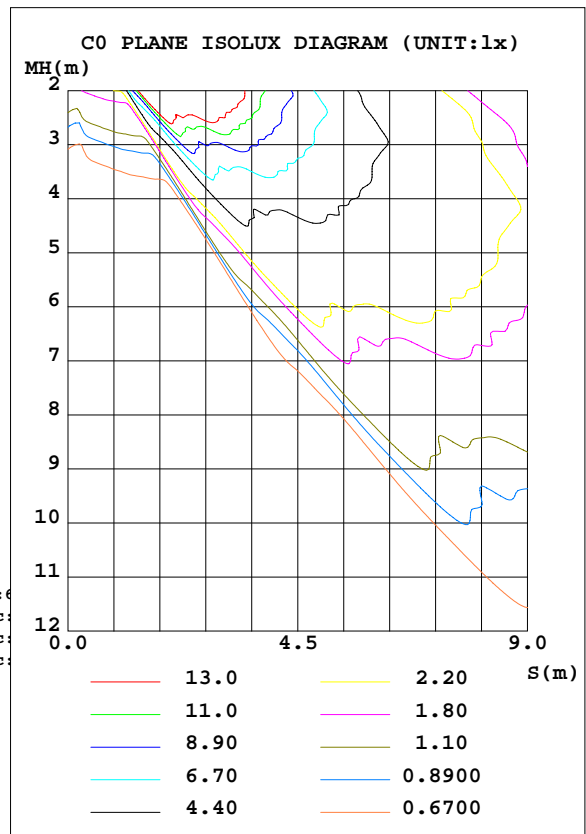
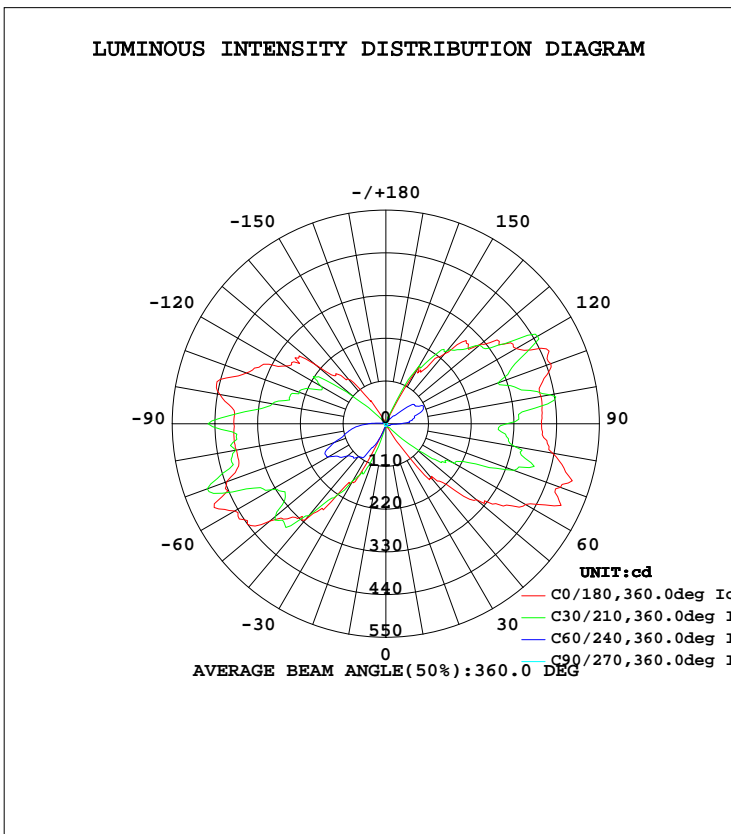


LUMINAIRE PHOTOMETRIC TEST REPORT

|  |          |                   |
|--|----------|-------------------|
| Test:U:120.0V I:0.1522A P:17.80W PF:0.9753 Lamp Flux:1974.2x1 lm |          |                   |
| NAME: ASD-OLCLS-2N18CC-PC-BK/BZ 4000K                            | TYPE:LED | WEIGHT:           |
| SPEC.:   | DIM.:    | SERIAL No.:       |
| MFR.: ASD Lighting corp  | SUR.:    | PROTECTION ANGLE: |

| DATA OF LAMP     |                     | PHOTOMETRIC DATA Eff: 110.89 lm/W |         |                    |           |
|------------------|---------------------|-----------------------------------|---------|--------------------|-----------|
| MODEL            | ASD-OLCLS-2N18CC-BK | I <sub>max</sub> (cd)             | 559.0   | S/MH(C0/180)       | 8.83      |
| NOMINAL POWER(W) | 18                  | LOR(%)                            | 100.0   | S/MH(C90/270)      | 1.25      |
| RATED VOLTAGE(V) | 120                 | TOTAL FLUX(lm)                    | 1974.2  | η UP, DN(C0-180)   | 23.0,26.7 |
| NOMINAL FLUX(lm) | 1974.2              | CIE CLASS                         | DIFFUSE | η UP, DN(C180-360) | 24.9,25.4 |
| LAMPS INSIDE     | 1                   | η up(%)                           | 47.9    | CIBSE SHR NOM      | 0.00      |
| TEST VOLTAGE(V)  | 120                 | η down(%)                         | 52.1    | CIBSE SHR MAX      | 1.00      |



C Range: 0 - 360DEG  
 C Interval: 15.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:  
 Test Date:2022-03-21

γ Range: 0 - 180DEG  
 γ Interval: 1.0DEG  
 Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.291  
 Humidity:65.0%  
 Test Distance:7.500m [K=1.0000]  
 Remarks:

## ZONAL FLUX DIAGRAM

## ZONAL FLUX DIAGRAM:

| $\gamma$ | C0                    | C45   | C90   | C135  | C180  | C225  | C270  | C315  | $\gamma$ | $\Phi$ zone | $\Phi$ total | $\Phi$ lum,lamp |
|----------|-----------------------|-------|-------|-------|-------|-------|-------|-------|----------|-------------|--------------|-----------------|
| 10       | 7.854                 | 5.526 | 7.002 | 13.00 | 8.730 | 9.133 | 6.671 | 6.444 | 0- 10    | 0.7701      | 0.7701       | 0.04,0.04       |
| 20       | 10.29                 | 5.192 | 6.655 | 132.6 | 15.35 | 41.38 | 6.334 | 5.477 | 10- 20   | 6.633       | 7.403        | 0.37,0.37       |
| 30       | 28.16                 | 7.615 | 6.309 | 168.0 | 172.2 | 158.3 | 5.823 | 7.524 | 20- 30   | 27.22       | 34.62        | 1.75,1.75       |
| 40       | 185.1                 | 9.881 | 5.842 | 258.3 | 323.5 | 196.1 | 5.222 | 9.860 | 30- 40   | 60.61       | 95.23        | 4.82,4.82       |
| 50       | 304.2                 | 12.79 | 5.212 | 336.7 | 390.2 | 206.4 | 4.694 | 12.80 | 40- 50   | 103.7       | 199.0        | 10.1,10.1       |
| 60       | 416.1                 | 49.89 | 4.645 | 251.8 | 449.5 | 270.2 | 4.120 | 56.21 | 50- 60   | 153.7       | 352.7        | 17.9,17.9       |
| 70       | 478.7                 | 178.0 | 4.176 | 317.9 | 436.0 | 340.4 | 3.712 | 146.7 | 60- 70   | 199.9       | 552.6        | 28,28           |
| 80       | 435.9                 | 156.8 | 3.844 | 275.6 | 390.9 | 277.9 | 3.439 | 195.6 | 70- 80   | 237.5       | 790.1        | 40,40           |
| 90       | 400.9                 | 234.9 | 3.621 | 177.5 | 391.6 | 244.4 | 3.608 | 325.0 | 80- 90   | 238.0       | 1028         | 52.1,52.1       |
| 100      | 405.6                 | 303.7 | 4.230 | 178.5 | 433.5 | 220.2 | 5.058 | 322.2 | 90-100   | 246.0       | 1274         | 64.5,64.5       |
| 110      | 452.1                 | 213.4 | 5.272 | 182.7 | 382.7 | 144.3 | 5.797 | 325.5 | 100-110  | 225.1       | 1499         | 75.9,75.9       |
| 120      | 388.0                 | 243.1 | 4.514 | 29.10 | 297.9 | 63.13 | 5.520 | 301.7 | 110-120  | 194.0       | 1693         | 85.8,85.8       |
| 130      | 319.4                 | 254.5 | 5.481 | 8.543 | 235.9 | 10.02 | 5.502 | 206.0 | 120-130  | 138.8       | 1832         | 92.8,92.8       |
| 140      | 235.5                 | 159.7 | 4.725 | 5.781 | 149.5 | 7.331 | 5.783 | 178.1 | 130-140  | 83.29       | 1915         | 97,97           |
| 150      | 170.9                 | 63.89 | 5.723 | 4.083 | 21.19 | 3.925 | 5.011 | 74.18 | 140-150  | 43.24       | 1958         | 99.2,99.2       |
| 160      | 7.751                 | 9.976 | 4.336 | 4.402 | 6.927 | 4.094 | 4.398 | 21.15 | 150-160  | 13.11       | 1972         | 99.9,99.9       |
| 170      | 5.974                 | 5.561 | 4.502 | 4.911 | 5.862 | 4.475 | 4.556 | 6.386 | 160-170  | 2.104       | 1974         | 100,100         |
| 180      | 6.678                 | 6.016 | 4.645 | 6.543 | 6.705 | 5.989 | 4.648 | 6.563 | 170-180  | 0.5157      | 1974         | 100,100         |
| DEG      | LUMINOUS INTENSITY:cd |       |       |       |       |       |       |       |          | UNIT:lm     |              |                 |

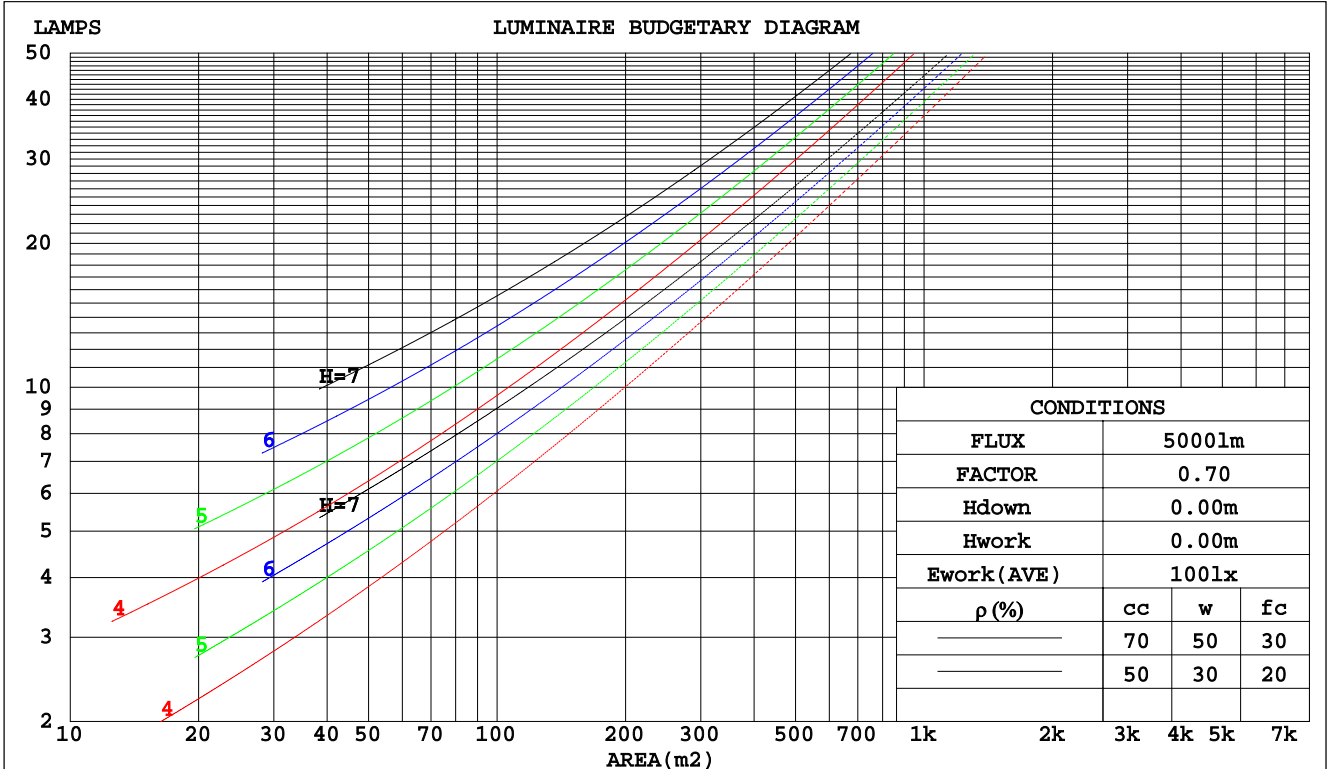
C Range: 0 - 360DEG  
C Interval: 15.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:  
Test Date:2022-03-21

$\gamma$  Range: 0 - 180DEG  
 $\gamma$  Interval: 1.0DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.291  
Humidity:65.0%  
Test Distance:7.500m [K=1.0000]  
Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

|  |          |                   |
|--|----------|-------------------|
| Test:U:120.0V I:0.1522A P:17.80W PF:0.9753 Lamp Flux:1974.2x1 lm |          |                   |
| NAME: ASD-OLCLS-2N18CC-PC-BK/BZ 4000K                            | TYPE:LED | WEIGHT:           |
| SPEC.:   | DIM.:    | SERIAL No.:       |
| MFR.: ASD Lighting corp  | SUR.:    | PROTECTION ANGLE: |

| pcc  | 80%                   |      |      | 70% |     |     | 50%                             |     |     | 30% |     |     | 10% |     |     | 0   |
|------|-----------------------|------|------|-----|-----|-----|---------------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|      | 50%                   | 30%  | 10%  | 50% | 30% | 10% | 50%                             | 30% | 10% | 50% | 30% | 10% | 50% | 30% | 10% | 0   |
| pw   |                       |      |      |     |     |     |                                 |     |     |     |     |     |     |     |     | 0   |
| pfc  | 20%                   |      |      | 20% |     |     | 20%                             |     |     | 20% |     |     | 20% |     |     | 0   |
| RCR  | RCR:Room Cavity Ratio |      |      |     |     |     | Coefficients of Utilization(CU) |     |     |     |     |     |     |     |     |     |
| 0.0  | 1.08                  | 1.08 | 1.08 | .00 | .00 | .00 | .84                             | .84 | .84 | .71 | .71 | .71 | .58 | .58 | .58 | .52 |
| 1.0  | .85                   | .78  | .73  | .78 | .72 | .67 | .64                             | .60 | .56 | .52 | .49 | .46 | .41 | .39 | .36 | .31 |
| 2.0  | .70                   | .62  | .54  | .64 | .56 | .50 | .53                             | .47 | .41 | .42 | .37 | .33 | .32 | .29 | .26 | .21 |
| 3.0  | .60                   | .50  | .42  | .54 | .46 | .39 | .44                             | .38 | .32 | .35 | .30 | .25 | .27 | .23 | .19 | .14 |
| 4.0  | .51                   | .41  | .34  | .47 | .38 | .31 | .38                             | .31 | .25 | .30 | .24 | .20 | .23 | .18 | .15 | .11 |
| 5.0  | .45                   | .35  | .28  | .41 | .32 | .25 | .33                             | .26 | .21 | .26 | .21 | .16 | .20 | .15 | .12 | .08 |
| 6.0  | .40                   | .30  | .23  | .36 | .27 | .21 | .29                             | .22 | .17 | .23 | .18 | .13 | .17 | .13 | .09 | .06 |
| 7.0  | .35                   | .26  | .20  | .32 | .24 | .18 | .26                             | .19 | .14 | .21 | .15 | .11 | .16 | .11 | .08 | .05 |
| 8.0  | .32                   | .23  | .17  | .29 | .21 | .15 | .24                             | .17 | .12 | .19 | .13 | .09 | .14 | .10 | .07 | .04 |
| 9.0  | .29                   | .20  | .15  | .26 | .19 | .13 | .22                             | .15 | .11 | .17 | .12 | .08 | .13 | .09 | .06 | .03 |
| 10.0 | .26                   | .18  | .13  | .24 | .17 | .12 | .20                             | .14 | .09 | .16 | .11 | .07 | .12 | .08 | .05 | .03 |



C Range: 0 - 360DEG  
 C Interval: 15.0DEG  
 Test Speed: HIGH  
 Temperature: 25.3DEG  
 Operators:  
 Test Date: 2022-03-21

γ Range: 0 - 180DEG  
 γ Interval: 1.0DEG  
 Test System: EVERFINE GO-2000B\_V1 SYSTEM V2.0.291  
 Humidity: 65.0%  
 Test Distance: 7.500m [K=1.0000]  
 Remarks:

WEC AND CCEC

|  |          |                   |
|--|----------|-------------------|
| Test:U:120.0V I:0.1522A P:17.80W PF:0.9753 Lamp Flux:1974.2x1 lm |          |                   |
| NAME: ASD-OLCLS-2N18CC-PC-BK/BZ 4000K                            | TYPE:LED | WEIGHT:           |
| SPEC.:   | DIM.:    | SERIAL No.:       |
| MFR.: ASD Lighting corp  | SUR.:    | PROTECTION ANGLE: |

| ρcc  | 80%                   |      |      | 70%  |      |      | 50%                             |      |      | 30%  |      |      | 10%  |      |      | 0 |
|------|-----------------------|------|------|------|------|------|---------------------------------|------|------|------|------|------|------|------|------|---|
| ρw   | 50%                   | 30%  | 10%  | 50%  | 30%  | 10%  | 50%                             | 30%  | 10%  | 50%  | 30%  | 10%  | 50%  | 30%  | 10%  | 0 |
| ρfc  | 20%                   |      |      | 20%  |      |      | 20%                             |      |      | 20%  |      |      | 20%  |      |      | 0 |
| RCR  | RCR:Room Cavity Ratio |      |      |      |      |      | Wall Exitance Coefficients(WEC) |      |      |      |      |      |      |      |      |   |
| 0.0  |                       |      |      |      |      |      |                                 |      |      |      |      |      |      |      |      |   |
| 1.0  | .456                  | .259 | .082 | .434 | .248 | .079 | .393                            | .225 | .072 | .355 | .205 | .066 | .320 | .186 | .060 |   |
| 2.0  | .373                  | .205 | .063 | .353 | .195 | .060 | .316                            | .176 | .055 | .281 | .158 | .049 | .249 | .141 | .044 |   |
| 3.0  | .321                  | .171 | .051 | .303 | .162 | .049 | .269                            | .146 | .044 | .237 | .130 | .040 | .207 | .115 | .036 |   |
| 4.0  | .283                  | .147 | .043 | .267 | .139 | .041 | .235                            | .125 | .037 | .206 | .110 | .033 | .178 | .097 | .030 |   |
| 5.0  | .254                  | .129 | .037 | .238 | .122 | .036 | .209                            | .109 | .032 | .182 | .096 | .029 | .157 | .084 | .025 |   |
| 6.0  | .230                  | .115 | .033 | .216 | .109 | .031 | .189                            | .097 | .028 | .164 | .085 | .025 | .140 | .074 | .022 |   |
| 7.0  | .210                  | .104 | .029 | .197 | .098 | .028 | .172                            | .087 | .025 | .149 | .076 | .022 | .127 | .066 | .019 |   |
| 8.0  | .193                  | .094 | .027 | .181 | .089 | .025 | .158                            | .079 | .023 | .137 | .069 | .020 | .116 | .060 | .017 |   |
| 9.0  | .179                  | .087 | .024 | .168 | .082 | .023 | .146                            | .072 | .021 | .126 | .063 | .018 | .107 | .054 | .016 |   |
| 10.0 | .167                  | .080 | .022 | .156 | .075 | .021 | .136                            | .067 | .019 | .117 | .058 | .017 | .100 | .050 | .014 |   |

| ρcc  | 80%                   |      |      | 70%  |      |      | 50%  |      |      | 30%  |      |      | 10%  |      |      | 0 |
|------|-----------------------|------|------|------|------|------|--|------|------|------|------|------|------|------|------|---|
| ρw   | 50%                   | 30%  | 10%  | 50%  | 30%  | 10%  | 50%  | 30%  | 10%  | 50%  | 30%  | 10%  | 50%  | 30%  | 10%  | 0 |
| ρfc  | 20%                   |      |      | 20%  |      |      | 20%  |      |      | 20%  |      |      | 20%  |      |      | 0 |
| RCR  | RCR:Room Cavity Ratio |      |      |      |      |      | Ceiling Cavity Exitance Coefficients(CCEC) |      |      |      |      |      |      |      |      |   |
| 0.0  | .556                  | .556 | .556 | .475 | .475 | .475 | .324                                       | .324 | .324 | .186 | .186 | .186 | .060 | .060 | .060 |   |
| 1.0  | .559                  | .523 | .491 | .478 | .449 | .423 | .327                                       | .309 | .292 | .188 | .179 | .170 | .060 | .058 | .055 |   |
| 2.0  | .554                  | .502 | .459 | .474 | .432 | .397 | .325                                       | .299 | .277 | .187 | .174 | .162 | .060 | .056 | .053 |   |
| 3.0  | .547                  | .487 | .440 | .469 | .420 | .381 | .322                                       | .292 | .267 | .186 | .171 | .158 | .060 | .055 | .052 |   |
| 4.0  | .540                  | .476 | .428 | .463 | .411 | .371 | .318                                       | .287 | .262 | .184 | .168 | .155 | .059 | .055 | .051 |   |
| 5.0  | .532                  | .467 | .419 | .457 | .404 | .365 | .315                                       | .282 | .258 | .182 | .166 | .153 | .059 | .054 | .050 |   |
| 6.0  | .524                  | .460 | .414 | .451 | .398 | .360 | .311                                       | .279 | .255 | .180 | .164 | .151 | .058 | .054 | .050 |   |
| 7.0  | .517                  | .454 | .409 | .445 | .393 | .357 | .307                                       | .276 | .253 | .179 | .162 | .150 | .058 | .053 | .050 |   |
| 8.0  | .510                  | .449 | .406 | .439 | .389 | .354 | .304                                       | .273 | .251 | .177 | .161 | .150 | .057 | .053 | .050 |   |
| 9.0  | .504                  | .444 | .404 | .434 | .385 | .352 | .301                                       | .271 | .250 | .175 | .160 | .149 | .057 | .053 | .049 |   |
| 10.0 | .498                  | .440 | .402 | .429 | .382 | .351 | .298                                       | .269 | .249 | .174 | .159 | .149 | .056 | .052 | .049 |   |

C Range: 0 - 360DEG  
 C Interval: 15.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:  
 Test Date:2022-03-21

γ Range: 0 - 180DEG  
 γ Interval: 1.0DEG  
 Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.291  
 Humidity:65.0%  
 Test Distance:7.500m [K=1.0000]  
 Remarks:

UGR(Unified Glare Rating) Table

|  |          |                   |
|--|----------|-------------------|
| Test:U:120.0V I:0.1522A P:17.80W PF:0.9753 Lamp Flux:1974.2x1 lm |          |                   |
| NAME: ASD-OLCLS-2N18CC-PC-BK/BZ 4000K                            | TYPE:LED | WEIGHT:           |
| SPEC.:   | DIM.:    | SERIAL No.:       |
| MFR.: ASD Lighting corp  | 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                                      | 17.1             | 18.3 | 18.0 | 19.2 | 20.3 | -7.5           | -6.4 | -6.7 | -5.5 | -4.3 |
| 3H   | 22.2             | 23.3 | 23.1 | 24.2 | 25.4 | -5.5           | -4.4 | -4.6 | -3.5 | -2.4 |
| 4H   | 24.6             | 25.6 | 25.5 | 26.6 | 27.7 | -4.3           | -3.3 | -3.4 | -2.3 | -1.1 |
| 6H   | 27.0             | 27.9 | 27.9 | 28.9 | 30.1 | -2.8           | -1.9 | -1.9 | -0.9 | 0.3  |
| 8H   | 28.2             | 29.1 | 29.1 | 30.0 | 31.3 | -2.0           | -1.1 | -1.1 | -0.2 | 1.1  |
| 12H  | 29.5             | 30.4 | 30.4 | 31.3 | 32.5 | -1.1           | -0.2 | -0.2 | 0.7  | 1.9  |
| 4H 2H  | 17.1             | 18.1 | 18.0 | 19.0 | 20.2 | 9.0            | 10.0 | 9.9  | 10.9 | 12.1 |
| 3H   | 22.8             | 23.7 | 23.7 | 24.6 | 25.9 | 9.6            | 10.5 | 10.5 | 11.4 | 12.7 |
| 4H   | 25.5             | 26.3 | 26.4 | 27.2 | 28.5 | 9.5            | 10.3 | 10.4 | 11.2 | 12.5 |
| 6H   | 28.2             | 28.9 | 29.1 | 29.9 | 31.1 | 9.4            | 10.1 | 10.3 | 11.1 | 12.4 |
| 8H   | 29.6             | 30.3 | 30.6 | 31.3 | 32.6 | 9.4            | 10.0 | 10.3 | 11.0 | 12.3 |
| 12H  | 31.1             | 31.7 | 32.1 | 32.7 | 34.0 | 9.4            | 10.0 | 10.3 | 11.0 | 12.3 |
| 8H 4H  | 25.5             | 26.2 | 26.5 | 27.2 | 28.5 | 17.0           | 17.7 | 18.0 | 18.7 | 20.0 |
| 6H   | 28.6             | 29.2 | 29.6 | 30.2 | 31.5 | 17.1           | 17.7 | 18.1 | 18.7 | 20.0 |
| 8H   | 30.3             | 30.9 | 31.3 | 31.9 | 33.2 | 17.0           | 17.6 | 18.0 | 18.6 | 19.9 |
| 12H  | 32.3             | 32.8 | 33.3 | 33.8 | 35.1 | 17.0           | 17.5 | 18.0 | 18.5 | 19.8 |
| 12H 4H   | 25.4             | 26.1 | 26.4 | 27.1 | 28.4 | 19.0           | 19.6 | 19.9 | 20.6 | 21.9 |
| 6H   | 28.6             | 29.1 | 29.5 | 30.1 | 31.4 | 19.5           | 20.1 | 20.5 | 21.1 | 22.4 |
| 8H   | 30.4             | 30.9 | 31.4 | 31.9 | 33.2 | 19.6           | 20.1 | 20.6 | 21.1 | 22.5 |
| Variations with the observer position at spacings: |                  |      |      |      |      |                |      |      |      |      |
| S = 1.0H   | + 0.1 / - 0.1    |      |      |      |      | + 0.2 / - 0.1  |      |      |      |      |
| 1.5H   | + 0.2 / - 0.3    |      |      |      |      | + 0.1 / - 0.1  |      |      |      |      |
| 2.0H   | + 0.2 / - 0.3    |      |      |      |      | + 0.7 / - 0.4  |      |      |      |      |

CIE Pub.117 Corrected 1974 lm Total Lamp Luminous Flux.(8log(F/F0) = 2.4)

C Range: 0 - 360DEG  
 C Interval: 15.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:  
 Test Date:2022-03-21

γ Range: 0 - 180DEG  
 γ Interval: 1.0DEG  
 Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.291  
 Humidity:65.0%  
 Test Distance:7.500m [K=1.0000]  
 Remarks:

## UTILIZATION FACTORS TABLE

|  |          |                   |
|--|----------|-------------------|
| Test:U:120.0V I:0.1522A P:17.80W PF:0.9753 Lamp Flux:1974.2x1 lm |          |                   |
| NAME: ASD-OLCLS-2N18CC-PC-BK/BZ 4000K                            | TYPE:LED | WEIGHT:           |
| SPEC.:   | DIM.:    | SERIAL No.:       |
| MFR.: ASD Lighting corp  | SUR.:    | PROTECTION ANGLE: |

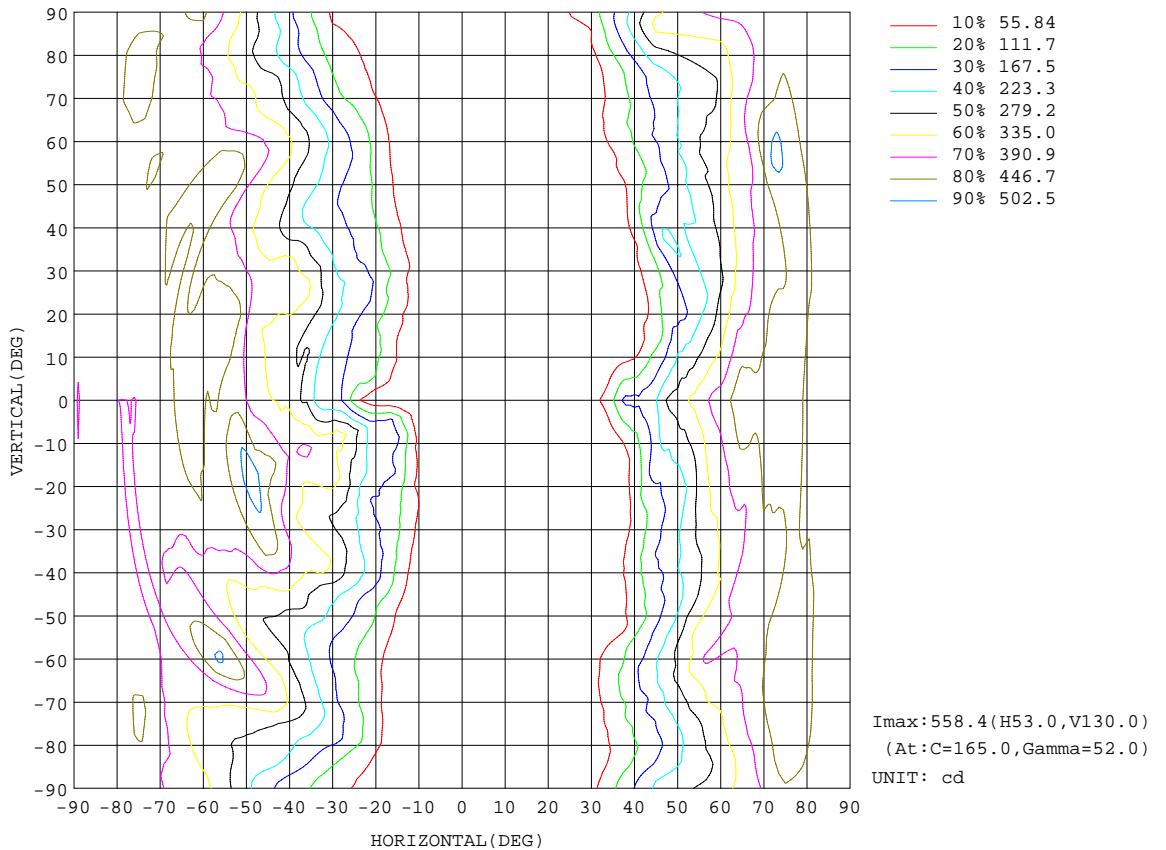
| REFLECTANCE                      |   |     |           |     |     |     |               |     |     |        |
|----------------------------------|---|-----|-----------|-----|-----|-----|---------------|-----|-----|--------|
| Ceiling                          | 0.8   | 0.8 | 0.8       | 0.7 | 0.7 | 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                         | 33  | 19  | 12        | 31  | 19  | 11  | 28            | 17  | 10  | 3      |
| 0.80                             | 41  | 26  | 17        | 39  | 25  | 17  | 34            | 22  | 15  | 6      |
| 1.00                             | 48  | 33  | 23        | 45  | 31  | 22  | 39            | 30  | 20  | 8      |
| 1.25                             | 55  | 40  | 29        | 51  | 37  | 28  | 44            | 33  | 25  | 11     |
| 1.50                             | 60  | 45  | 35        | 56  | 42  | 33  | 48            | 37  | 29  | 14     |
| 2.00                             | 69  | 54  | 44        | 63  | 51  | 41  | 54            | 44  | 36  | 18     |
| 2.50                             | 74  | 61  | 50        | 68  | 57  | 47  | 58            | 49  | 41  | 21     |
| 3.00                             | 78  | 66  | 56        | 72  | 61  | 53  | 61            | 53  | 45  | 24     |
| 4.00                             | 84  | 73  | 65        | 77  | 68  | 60  | 65            | 58  | 52  | 28     |
| 5.00                             | 88  | 78  | 70        | 81  | 73  | 65  | 68            | 62  | 56  | 31     |
| ROOM INDEX                       | UF(total)   |     |           |     |     |     |               |     |     | Direct |
| According to DIN EN 13032-2 2004 |   |     | Suspended |     |     |     | SHRNOM = 1.25 |     |     |        |

C Range: 0 - 360DEG  
 C Interval: 15.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:  
 Test Date:2022-03-21

$\gamma$  Range: 0 - 180DEG  
 $\gamma$  Interval: 1.0DEG  
 Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.291  
 Humidity:65.0%  
 Test Distance:7.500m [K=1.0000]  
 Remarks:

ISOCANDELA DIAGRAM

|  |          |                   |
|--|----------|-------------------|
| Test:U:120.0V I:0.1522A P:17.80W PF:0.9753 Lamp Flux:1974.2x1 lm |          |                   |
| NAME: ASD-OLCLS-2N18CC-PC-BK/BZ 4000K                            | TYPE:LED | WEIGHT:           |
| SPEC.:   | DIM.:    | SERIAL No.:       |
| MFR.: ASD Lighting corp  | SUR.:    | PROTECTION ANGLE: |

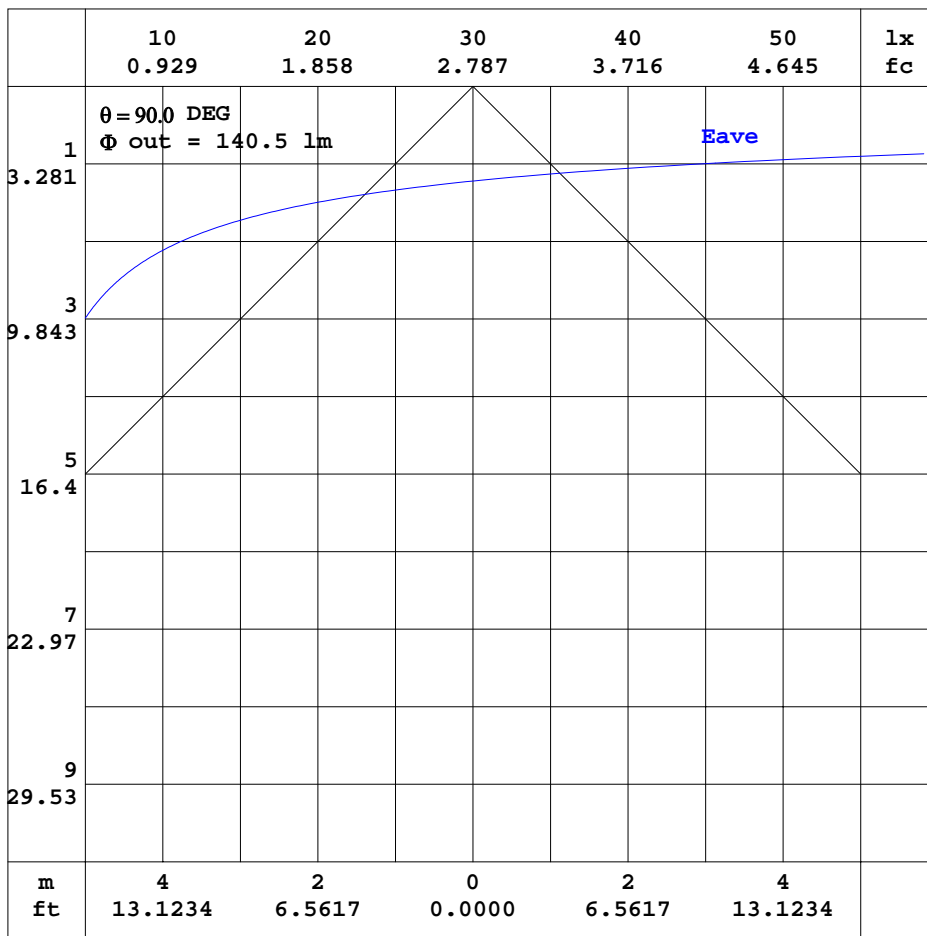


C Range: 0 - 360DEG  
 C Interval: 15.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:  
 Test Date:2022-03-21

γ Range: 0 - 180DEG  
 γ Interval: 1.0DEG  
 Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.291  
 Humidity:65.0%  
 Test Distance:7.500m [K=1.0000]  
 Remarks:

AAI CURVES

|  |          |                   |
|--|----------|-------------------|
| Test:U:120.0V I:0.1522A P:17.80W PF:0.9753 Lamp Flux:1974.2x1 lm |          |                   |
| NAME: ASD-OLCLS-2N18CC-PC-BK/BZ 4000K                            | TYPE:LED | WEIGHT:           |
| SPEC.:   | DIM.:    | SERIAL No.:       |
| MFR.: ASD Lighting corp  | SUR.:    | PROTECTION ANGLE: |



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

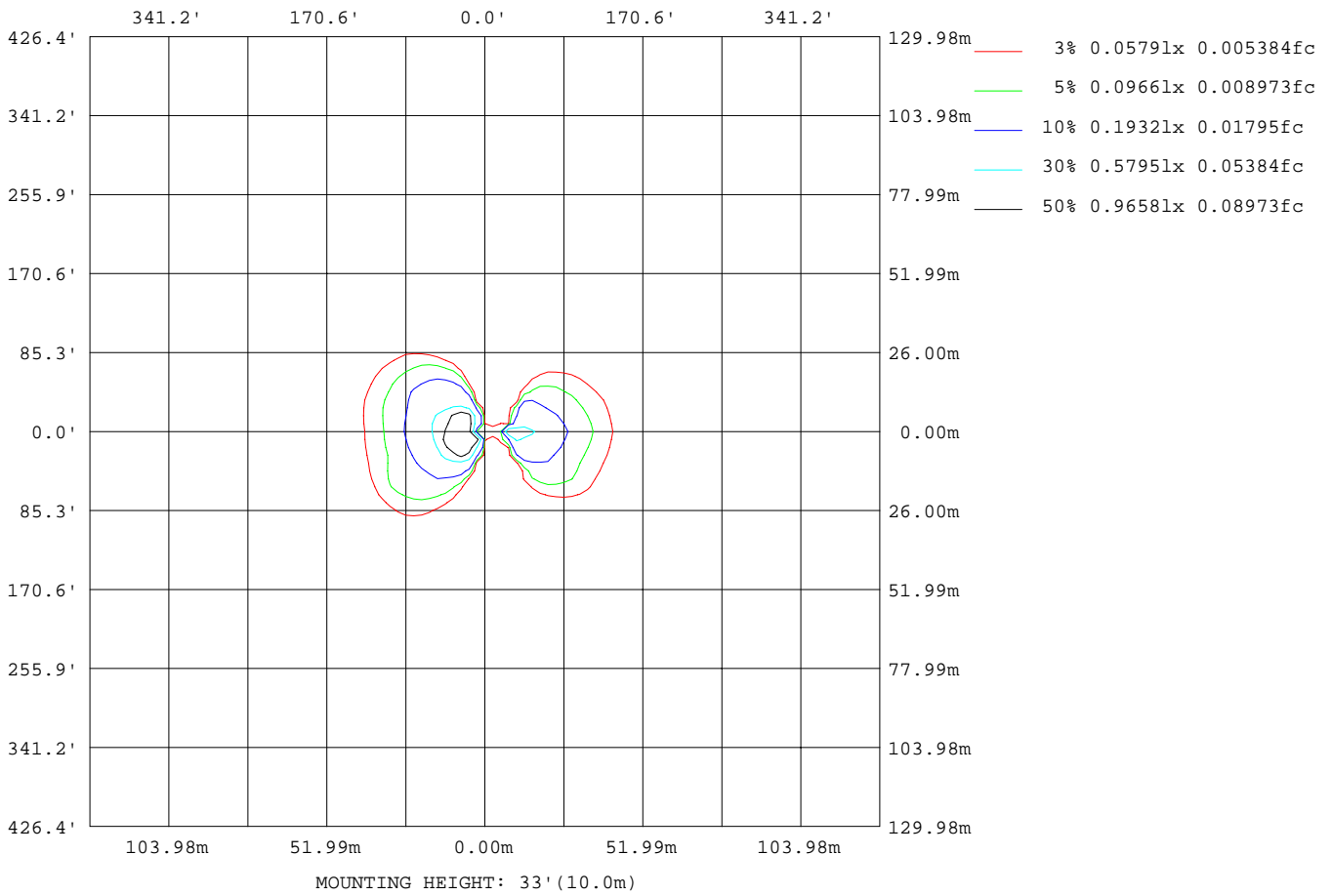
C Range: 0 - 360DEG  
 C Interval: 15.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:  
 Test Date:2022-03-21

$\gamma$  Range: 0 - 180DEG  
 $\gamma$  Interval: 1.0DEG  
 Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.291  
 Humidity:65.0%  
 Test Distance:7.500m [K=1.0000]  
 Remarks:



ISOLUX DIAGRAM

|  |          |                   |
|--|----------|-------------------|
| Test:U:120.0V I:0.1522A P:17.80W PF:0.9753 Lamp Flux:1974.2x1 lm |          |                   |
| NAME: ASD-OLCLS-2N18CC-PC-BK/BZ 4000K                            | TYPE:LED | WEIGHT:           |
| SPEC.:   | DIM.:    | SERIAL No.:       |
| MFR.: ASD Lighting corp  | SUR.:    | PROTECTION ANGLE: |



C Range: 0 - 360DEG  
 C Interval: 15.0DEG  
 Test Speed: HIGH  
 Temperature: 25.3DEG  
 Operators:  
 Test Date: 2022-03-21

γ Range: 0 - 180DEG  
 γ Interval: 1.0DEG  
 Test System: EVERFINE GO-2000B\_V1 SYSTEM V2.0.291  
 Humidity: 65.0%  
 Test Distance: 7.500m [K=1.0000]  
 Remarks:

## LED Avg.L Report

|  |          |                   |
|--|----------|-------------------|
| Test:U:120.0V I:0.1522A P:17.80W PF:0.9753 Lamp Flux:1974.2x1 lm |          |                   |
| NAME: ASD-OLCLS-2N18CC-PC-BK/BZ 4000K                            | TYPE:LED | WEIGHT:           |
| SPEC.:   | DIM.:    | SERIAL No.:       |
| MFR.: ASD Lighting corp  | SUR.:    | PROTECTION ANGLE: |

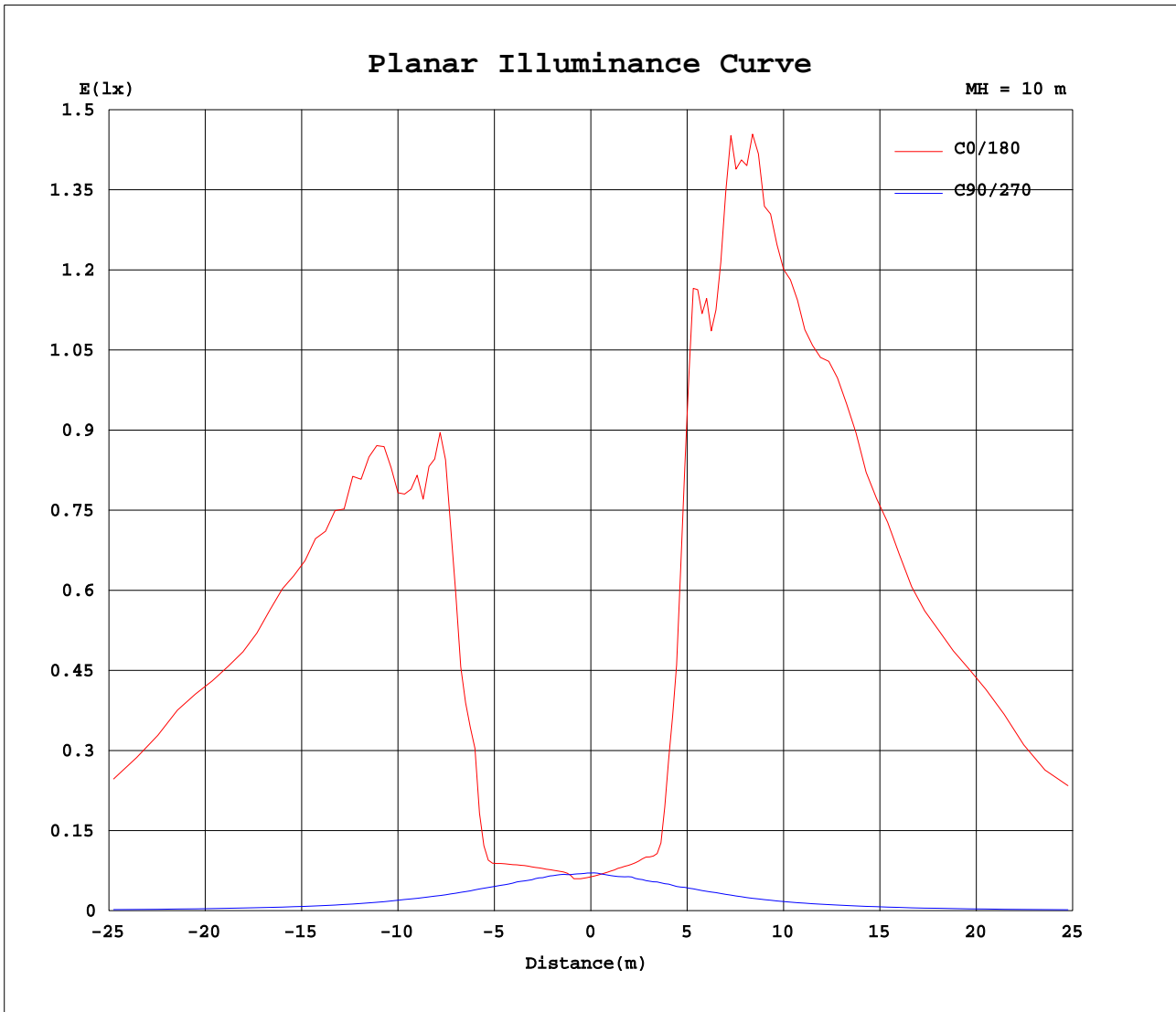
| AvgL           | cd/m2 |
|----------------|-------|
| L_0~180(65)av  | 11658 |
| L_0~180(75)av  | 16824 |
| L_0~180(85)av  | 45939 |
| L_90~270(65)av | 98    |
| L_90~270(75)av | 145   |
| L_90~270(85)av | 408   |
| L_45(65)av     | 4879  |
| L_45(75)av     | 9597  |
| L_45(85)av     | 27636 |

Standard: GB/T 29293-2012

C Range: 0 - 360DEG  
 C Interval: 15.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:  
 Test Date:2022-03-21

$\gamma$  Range: 0 - 180DEG  
 $\gamma$  Interval: 1.0DEG  
 Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.291  
 Humidity:65.0%  
 Test Distance:7.500m [K=1.0000]  
 Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG  
 C Interval: 15.0DEG  
 Test Speed: HIGH  
 Temperature: 25.3DEG  
 Operators:  
 Test Date: 2022-03-21

γ Range: 0 - 180DEG  
 γ Interval: 1.0DEG  
 Test System: EVERFINE GO-2000B\_V1 SYSTEM V2.0.291  
 Humidity: 65.0%  
 Test Distance: 7.500m [K=1.0000]  
 Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

|  |          |                   |
|--|----------|-------------------|
| Test:U:120.0V I:0.1522A P:17.80W PF:0.9753 Lamp Flux:1974.2x1 lm |          |                   |
| NAME: ASD-OLCLS-2N18CC-PC-BK/BZ 4000K                            | TYPE:LED | WEIGHT:           |
| SPEC.:   | DIM.:    | SERIAL No.:       |
| MFR.: ASD Lighting corp  | SUR.:    | PROTECTION ANGLE: |

Table--1

UNIT: cd

| C(DEG)<br>γ (DEG) | 0    | 15   | 30   | 45   | 60   | 75   | 90   | 105  | 120  | 135  | 150  | 165  | 180  | 195  | 210  | 225  | 240  | 255  | 270  |
|-------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 0                 | 6.37 | 7.54 | 7.52 | 6.98 | 7.42 | 7.10 | 7.07 | 7.28 | 7.79 | 8.35 | 9.00 | 9.03 | 6.37 | 7.54 | 7.52 | 6.98 | 7.42 | 7.10 | 7.07 |
| 5                 | 6.08 | 6.53 | 6.45 | 6.13 | 6.71 | 6.70 | 6.93 | 7.67 | 8.88 | 9.76 | 10.6 | 11.0 | 7.33 | 8.95 | 8.64 | 7.93 | 8.14 | 7.23 | 6.77 |
| 10                | 7.85 | 5.97 | 5.76 | 5.53 | 6.21 | 6.52 | 7.00 | 8.47 | 9.61 | 13.0 | 27.4 | 26.3 | 8.73 | 11.1 | 10.3 | 9.13 | 8.52 | 7.65 | 6.67 |
| 15                | 8.94 | 7.42 | 5.65 | 5.10 | 5.51 | 6.05 | 6.86 | 8.62 | 14.8 | 48.7 | 128  | 122  | 10.8 | 24.9 | 22.2 | 10.6 | 10.0 | 7.97 | 6.49 |
| 20                | 10.3 | 8.38 | 7.37 | 5.19 | 5.03 | 5.51 | 6.65 | 8.75 | 41.5 | 133  | 194  | 190  | 15.4 | 95.8 | 84.5 | 41.4 | 21.6 | 8.30 | 6.33 |
| 25                | 11.9 | 9.67 | 8.33 | 6.80 | 4.68 | 5.09 | 6.40 | 8.89 | 83.3 | 171  | 208  | 280  | 86.3 | 159  | 142  | 87.5 | 51.9 | 7.93 | 6.00 |
| 30                | 28.2 | 11.2 | 9.61 | 7.62 | 4.54 | 4.79 | 6.31 | 9.53 | 114  | 168  | 275  | 375  | 172  | 204  | 168  | 158  | 70.7 | 8.11 | 5.82 |
| 35                | 108  | 13.1 | 11.0 | 8.72 | 5.39 | 4.50 | 6.00 | 9.64 | 145  | 223  | 346  | 368  | 245  | 237  | 233  | 208  | 107  | 8.25 | 5.61 |
| 40                | 185  | 55.9 | 12.7 | 9.88 | 6.44 | 4.28 | 5.84 | 10.1 | 175  | 258  | 296  | 391  | 324  | 280  | 309  | 196  | 112  | 8.16 | 5.22 |
| 45                | 221  | 149  | 30.5 | 11.2 | 7.14 | 4.14 | 5.62 | 10.1 | 198  | 324  | 328  | 446  | 340  | 310  | 368  | 211  | 120  | 7.93 | 4.94 |
| 50                | 304  | 201  | 92.7 | 12.8 | 7.98 | 4.09 | 5.21 | 9.63 | 156  | 337  | 407  | 520  | 390  | 346  | 371  | 206  | 129  | 7.87 | 4.69 |
| 55                | 369  | 226  | 175  | 17.2 | 8.91 | 4.27 | 4.89 | 9.19 | 152  | 276  | 451  | 464  | 435  | 467  | 317  | 206  | 148  | 7.79 | 4.42 |
| 60                | 416  | 323  | 206  | 49.9 | 9.86 | 5.45 | 4.65 | 8.78 | 129  | 252  | 353  | 437  | 450  | 468  | 340  | 270  | 171  | 7.45 | 4.12 |
| 65                | 498  | 354  | 238  | 128  | 10.7 | 5.95 | 4.38 | 8.80 | 130  | 268  | 303  | 419  | 488  | 424  | 397  | 336  | 173  | 7.06 | 3.92 |
| 70                | 479  | 393  | 351  | 178  | 11.8 | 6.38 | 4.18 | 8.40 | 153  | 318  | 410  | 385  | 436  | 433  | 490  | 340  | 142  | 6.63 | 3.71 |
| 75                | 479  | 410  | 387  | 166  | 12.8 | 6.82 | 3.98 | 7.63 | 186  | 369  | 485  | 392  | 392  | 442  | 407  | 302  | 112  | 6.19 | 3.54 |
| 80                | 436  | 462  | 337  | 157  | 13.6 | 7.36 | 3.84 | 7.12 | 188  | 276  | 340  | 402  | 391  | 448  | 392  | 278  | 92.2 | 5.89 | 3.44 |
| 85                | 408  | 490  | 310  | 162  | 18.8 | 7.86 | 3.72 | 6.56 | 115  | 256  | 297  | 456  | 393  | 461  | 387  | 247  | 71.5 | 5.46 | 3.40 |
| 90                | 401  | 439  | 311  | 235  | 38.5 | 8.41 | 3.62 | 6.13 | 75.7 | 177  | 357  | 413  | 392  | 418  | 458  | 244  | 45.7 | 5.08 | 3.61 |
| 95                | 403  | 446  | 352  | 327  | 60.8 | 9.02 | 3.68 | 5.76 | 59.3 | 185  | 411  | 339  | 392  | 386  | 363  | 267  | 22.1 | 4.69 | 4.62 |
| 100               | 406  | 470  | 430  | 304  | 70.5 | 9.50 | 4.23 | 5.22 | 22.8 | 179  | 377  | 348  | 434  | 378  | 297  | 220  | 9.15 | 4.34 | 5.06 |
| 105               | 418  | 466  | 352  | 258  | 76.6 | 9.98 | 5.00 | 4.79 | 10.1 | 184  | 296  | 317  | 442  | 428  | 258  | 180  | 8.63 | 4.04 | 5.44 |
| 110               | 452  | 493  | 307  | 213  | 100  | 10.4 | 5.27 | 4.44 | 9.13 | 183  | 220  | 300  | 383  | 443  | 236  | 144  | 8.29 | 3.83 | 5.80 |
| 115               | 456  | 494  | 368  | 224  | 107  | 10.6 | 4.88 | 4.05 | 7.68 | 86.8 | 174  | 295  | 355  | 346  | 213  | 89.0 | 7.11 | 3.62 | 5.99 |
| 120               | 388  | 405  | 451  | 243  | 91.2 | 9.42 | 4.51 | 3.79 | 6.70 | 29.1 | 143  | 241  | 298  | 266  | 191  | 63.1 | 6.51 | 3.41 | 5.52 |
| 125               | 355  | 419  | 353  | 304  | 87.6 | 7.76 | 5.36 | 3.59 | 5.96 | 10.1 | 88.9 | 202  | 271  | 199  | 212  | 14.1 | 5.74 | 3.28 | 4.78 |
| 130               | 319  | 350  | 315  | 255  | 50.1 | 6.24 | 5.48 | 3.44 | 5.20 | 8.54 | 34.0 | 161  | 236  | 182  | 100  | 10.0 | 4.90 | 3.30 | 5.50 |
| 135               | 293  | 331  | 270  | 170  | 29.3 | 5.66 | 4.77 | 3.51 | 3.56 | 7.30 | 10.8 | 49.9 | 182  | 108  | 27.2 | 8.38 | 3.74 | 3.87 | 6.27 |
| 140               | 235  | 360  | 244  | 160  | 16.7 | 5.33 | 4.72 | 3.57 | 3.40 | 5.78 | 8.89 | 11.6 | 150  | 38.6 | 11.3 | 7.33 | 3.32 | 4.07 | 5.78 |
| 145               | 169  | 332  | 211  | 137  | 10.0 | 5.23 | 5.58 | 3.61 | 3.60 | 4.12 | 7.02 | 9.59 | 80.8 | 11.4 | 9.11 | 5.28 | 3.54 | 3.72 | 4.98 |
| 150               | 171  | 208  | 174  | 63.9 | 12.5 | 5.12 | 5.72 | 3.73 | 3.58 | 4.08 | 5.13 | 8.04 | 21.2 | 9.57 | 6.70 | 3.92 | 3.56 | 3.74 | 5.01 |
| 155               | 28.5 | 123  | 66.0 | 11.4 | 7.18 | 5.00 | 4.31 | 3.81 | 3.74 | 4.25 | 4.97 | 5.47 | 11.5 | 6.54 | 4.78 | 4.14 | 3.62 | 3.84 | 5.27 |
| 160               | 7.75 | 11.6 | 13.4 | 9.98 | 5.72 | 4.89 | 4.34 | 3.99 | 3.96 | 4.40 | 5.03 | 5.89 | 6.93 | 5.45 | 5.31 | 4.09 | 3.74 | 3.90 | 4.40 |
| 165               | 6.57 | 7.16 | 6.43 | 5.82 | 5.35 | 4.82 | 4.40 | 4.13 | 4.42 | 4.58 | 5.20 | 5.58 | 6.86 | 5.51 | 4.93 | 4.25 | 4.13 | 4.08 | 4.49 |
| 170               | 5.97 | 6.13 | 5.99 | 5.56 | 5.17 | 4.76 | 4.50 | 4.35 | 4.51 | 4.91 | 5.46 | 5.69 | 5.86 | 5.61 | 5.12 | 4.47 | 4.23 | 4.28 | 4.56 |
| 175               | 5.92 | 5.96 | 5.77 | 5.30 | 5.01 | 4.70 | 4.59 | 4.61 | 4.87 | 5.27 | 5.84 | 6.06 | 5.88 | 5.73 | 5.33 | 4.73 | 4.52 | 4.47 | 4.62 |
| 180               | 6.68 | 6.87 | 6.60 | 6.02 | 4.89 | 4.61 | 4.64 | 4.83 | 6.09 | 6.54 | 6.96 | 7.51 | 6.71 | 6.86 | 6.63 | 5.99 | 4.92 | 4.62 | 4.65 |

C Range: 0 - 360DEG  
 C Interval: 15.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:  
 Test Date:2022-03-21

γ Range: 0 - 180DEG  
 γ Interval: 1.0DEG  
 Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.291  
 Humidity:65.0%  
 Test Distance:7.500m [K=1.0000]  
 Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

|  |          |                   |
|--|----------|-------------------|
| Test:U:120.0V I:0.1522A P:17.80W PF:0.9753 Lamp Flux:1974.2x1 lm |          |                   |
| NAME: ASD-OLCLS-2N18CC-PC-BK/BZ 4000K                            | TYPE:LED | WEIGHT:           |
| SPEC.:   | DIM.:    | SERIAL No.:       |
| MFR.: ASD Lighting corp  | SUR.:    | PROTECTION ANGLE: |

Table--2

UNIT: cd

| C( DEG)<br>γ (DEG) | 285  | 300  | 315  | 330  | 345  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|--------------------|------|------|------|------|------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| 0                  | 7.28 | 7.79 | 8.35 | 9.00 | 9.03 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 5                  | 6.77 | 7.05 | 7.34 | 7.81 | 7.67 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 10                 | 6.40 | 6.41 | 6.44 | 6.73 | 6.63 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 15                 | 6.03 | 5.84 | 5.85 | 6.05 | 6.06 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 20                 | 5.58 | 5.37 | 5.48 | 6.00 | 7.49 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 25                 | 5.17 | 5.14 | 6.14 | 7.78 | 8.44 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 30                 | 4.93 | 5.17 | 7.52 | 8.83 | 9.68 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 35                 | 4.64 | 6.49 | 8.64 | 10.1 | 11.1 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 40                 | 4.39 | 7.41 | 9.86 | 11.7 | 12.9 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 45                 | 4.22 | 8.13 | 11.2 | 13.8 | 68.8 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 50                 | 4.27 | 8.63 | 12.8 | 60.7 | 135  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 55                 | 5.44 | 9.58 | 14.0 | 161  | 167  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 60                 | 5.88 | 10.7 | 56.2 | 220  | 219  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 65                 | 6.32 | 11.3 | 93.9 | 210  | 293  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 70                 | 6.85 | 11.6 | 147  | 266  | 357  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 75                 | 7.24 | 13.7 | 157  | 286  | 414  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 80                 | 7.61 | 29.5 | 196  | 271  | 511  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 85                 | 8.27 | 54.0 | 299  | 313  | 457  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 90                 | 8.72 | 80.8 | 325  | 418  | 405  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 95                 | 9.21 | 125  | 323  | 532  | 442  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 100                | 9.76 | 145  | 322  | 468  | 427  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 105                | 10.3 | 179  | 317  | 451  | 422  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 110                | 10.8 | 198  | 326  | 495  | 432  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 115                | 9.80 | 209  | 391  | 479  | 439  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 120                | 8.02 | 164  | 302  | 347  | 490  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 125                | 7.48 | 141  | 247  | 319  | 476  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 130                | 6.89 | 101  | 206  | 350  | 361  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 135                | 6.29 | 79.6 | 203  | 420  | 342  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 140                | 5.75 | 32.5 | 178  | 334  | 286  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 145                | 5.40 | 8.07 | 116  | 266  | 259  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 150                | 5.32 | 10.5 | 74.2 | 168  | 194  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 155                | 5.22 | 7.02 | 47.5 | 102  | 146  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 160                | 5.15 | 6.20 | 21.1 | 74.6 | 74.7 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 165                | 5.11 | 5.90 | 6.91 | 10.3 | 22.9 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 170                | 5.05 | 5.74 | 6.39 | 6.68 | 6.53 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 175                | 4.98 | 5.56 | 6.12 | 6.33 | 6.28 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 180                | 4.81 | 6.10 | 6.56 | 6.91 | 7.55 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

C Range: 0 - 360DEG  
 C Interval: 15.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:  
 Test Date:2022-03-21

γ Range: 0 - 180DEG  
 γ Interval: 1.0DEG  
 Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.291  
 Humidity:65.0%  
 Test Distance:7.500m [K=1.0000]  
 Remarks: