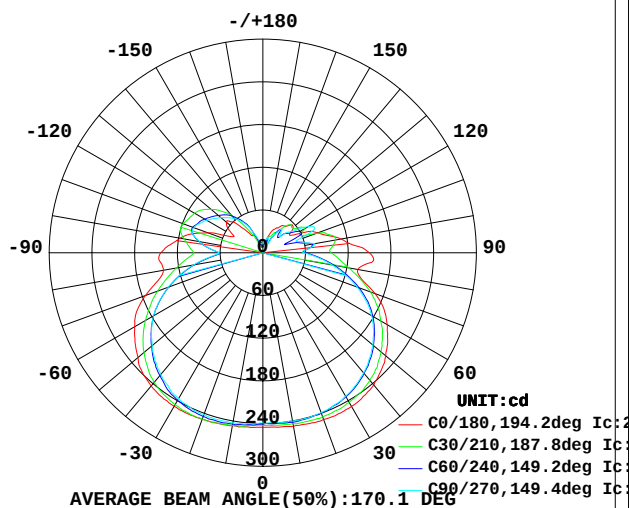


## LUMINAIRE PHOTOMETRIC TEST REPORT

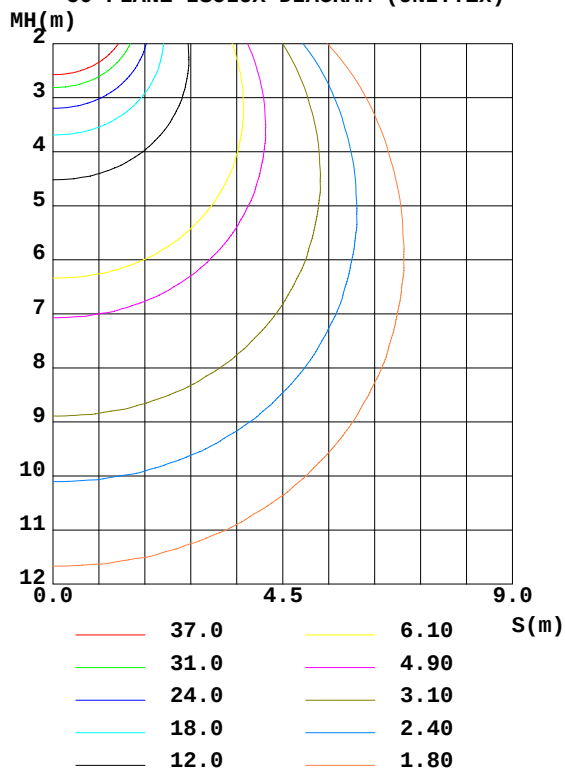
|                                                                   |          |                   |
|-------------------------------------------------------------------|----------|-------------------|
| Test:U:120.2V I:0.2030A P:23.95W PF:0.9814 Lamp Flux:1572.31x1 lm |          |                   |
| NAME: ASD-LWS12-14D24AC-NK                                        | TYPE:LED | WEIGHT:           |
| SPEC.:5000K                                                       | DIM.:    | SERIAL No.:       |
| MFR.: ASD Lighting Corp                                           | SUR.:    | PROTECTION ANGLE: |

| DATA OF LAMP     |                      | PHOTOMETRIC DATA Eff: 65.65 lm/W |         |                    |            |
|------------------|----------------------|----------------------------------|---------|--------------------|------------|
| MODEL            | ASD-LWS12-14D24AC-NK | I <sub>max</sub> (cd)            | 250.6   | S/MH(C0/180)       | 1.54       |
| NOMINAL POWER(W) | 24                   | LOR(%)                           | 100.0   | S/MH(C90/270)      | 1.47       |
| RATED VOLTAGE(V) | 120                  | TOTAL FLUX(lm)                   | 1572.3  | η UP, DN(C0-180)   | 12.3, 36.1 |
| NOMINAL FLUX(lm) | 1572.31              | CIE CLASS                        | SEMI-D. | η UP, DN(C180-360) | 15.2, 36.5 |
| LAMPS INSIDE     | 1                    | η up(%)                          | 27.5    | CIBSE SHR NOM      | 1.50       |
| TEST VOLTAGE(V)  | 120                  | η down(%)                        | 72.5    | CIBSE SHR MAX      | 1.55       |

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



C0 PLANE ISOLUX DIAGRAM (UNIT:lx)



C Range: 0 - 360DEG  
C Interval: 15.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:  
Test Date:2025-05-26

γ Range: 0 - 180DEG  
γ Interval: 1.0DEG  
Test System:EVERFINE G0-2000A\_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 | %lum, lamp |
|----------|-----------------------|-------|-------|-------|-------|-------|-------|-------|----------|-------------|--------------|------------|
| 10       | 247.4                 | 242.1 | 240.2 | 238.8 | 246.4 | 245.1 | 242.7 | 241.6 | 0- 10    | 23.06       | 23.06        | 1.47,1.47  |
| 20       | 249.4                 | 242.3 | 239.3 | 240.1 | 249.1 | 247.3 | 242.1 | 243.8 | 10- 20   | 68.96       | 92.03        | 5.85,5.85  |
| 30       | 249.3                 | 238.3 | 232.7 | 239.3 | 249.0 | 242.3 | 237.2 | 243.6 | 20- 30   | 112.2       | 204.2        | 13,13      |
| 40       | 242.5                 | 226.2 | 220.4 | 230.9 | 244.2 | 230.9 | 223.2 | 237.0 | 30- 40   | 148.4       | 352.7        | 22.4,22.4  |
| 50       | 225.5                 | 209.1 | 202.0 | 214.6 | 229.0 | 211.0 | 203.2 | 222.0 | 40- 50   | 172.4       | 525.1        | 33.4,33.4  |
| 60       | 201.8                 | 184.5 | 176.1 | 191.4 | 208.1 | 182.7 | 177.4 | 197.0 | 50- 60   | 180.8       | 705.9        | 44.9,44.9  |
| 70       | 167.9                 | 152.1 | 141.2 | 162.6 | 175.3 | 148.3 | 141.2 | 166.8 | 60- 70   | 172.2       | 878.1        | 55.8,55.8  |
| 80       | 135.4                 | 112.4 | 98.97 | 127.2 | 142.0 | 108.0 | 98.89 | 133.8 | 70- 80   | 143.9       | 1022         | 65,65      |
| 90       | 149.9                 | 75.96 | 58.08 | 107.1 | 143.5 | 77.55 | 61.29 | 124.9 | 80- 90   | 118.3       | 1140         | 72.5,72.5  |
| 100      | 111.7                 | 84.80 | 74.27 | 107.4 | 118.1 | 103.0 | 90.63 | 116.2 | 90-100   | 106.4       | 1247         | 79.3,79.3  |
| 110      | 82.27                 | 41.63 | 49.76 | 76.22 | 82.00 | 118.9 | 103.3 | 107.0 | 100-110  | 96.23       | 1343         | 85.4,85.4  |
| 120      | 50.66                 | 57.09 | 74.04 | 65.45 | 46.70 | 104.9 | 91.36 | 66.42 | 110-120  | 75.76       | 1419         | 90.2,90.2  |
| 130      | 55.56                 | 46.53 | 44.69 | 82.46 | 66.99 | 89.46 | 76.72 | 56.15 | 120-130  | 60.59       | 1479         | 94.1,94.1  |
| 140      | 48.72                 | 47.28 | 41.72 | 56.63 | 46.59 | 66.05 | 62.73 | 46.23 | 130-140  | 46.17       | 1525         | 97,97      |
| 150      | 40.48                 | 21.33 | 19.10 | 47.60 | 28.58 | 40.72 | 44.44 | 34.89 | 140-150  | 27.99       | 1553         | 98.8,98.8  |
| 160      | 27.36                 | 20.14 | 22.81 | 13.93 | 15.53 | 13.81 | 20.88 | 24.08 | 150-160  | 12.69       | 1566         | 99.6,99.6  |
| 170      | 15.62                 | 12.63 | 16.25 | 22.25 | 8.028 | 12.56 | 13.22 | 17.65 | 160-170  | 4.770       | 1571         | 99.9,99.9  |
| 180      | 10.44                 | 7.830 | 10.45 | 16.63 | 10.52 | 7.864 | 10.48 | 16.68 | 170-180  | 1.382       | 1572         | 100,100    |
| DEG      | LUMINOUS INTENSITY:cd |       |       |       |       |       |       |       |          | UNIT:lm     |              |            |

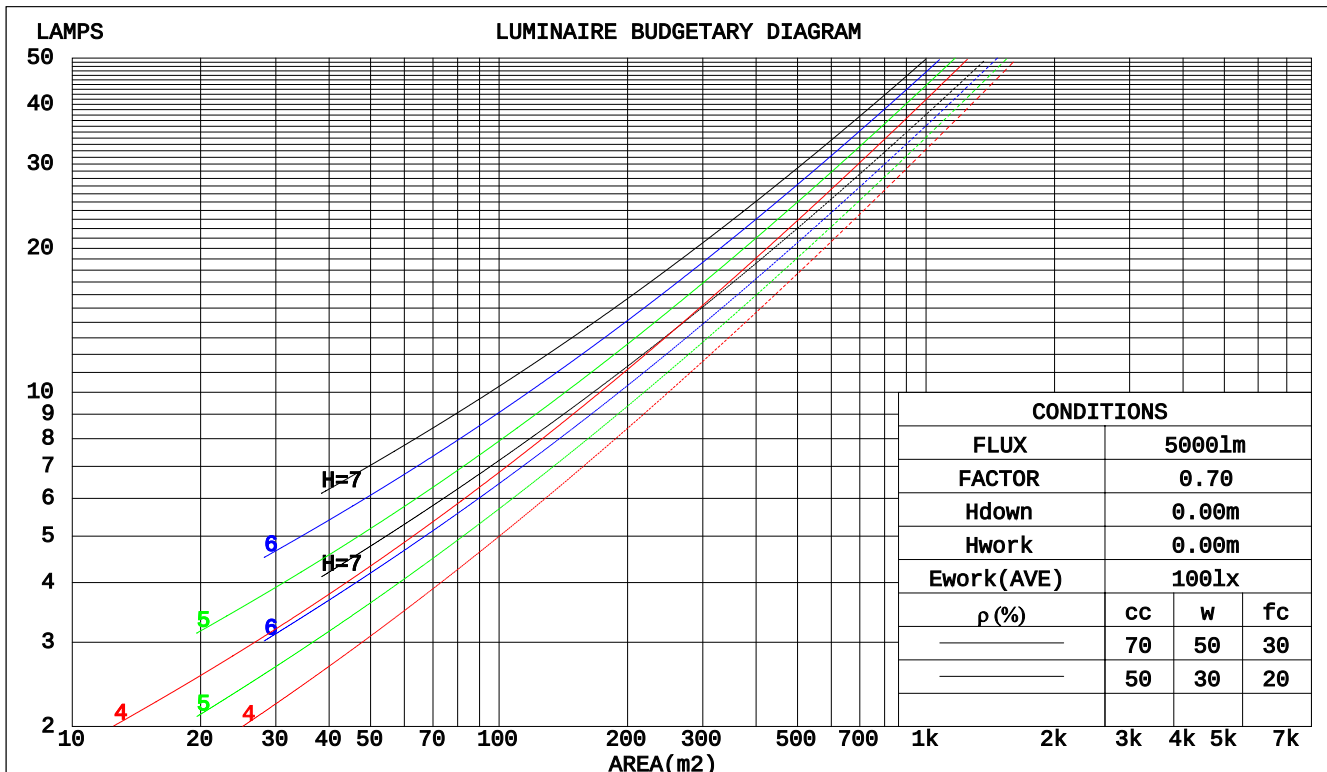
C Range: 0 - 360DEG  
 C Interval: 15.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:  
 Test Date:2025-05-26

$\gamma$  Range: 0 - 180DEG  
 $\gamma$  Interval: 1.0DEG  
 Test System:EVERFINE G0-2000A\_V1 SYSTEM V2.0.291  
 Humidity:65.0%  
 Test Distance:7.500m [K=1.0000]  
 Remarks:

## CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

|                                                                   |          |                   |
|-------------------------------------------------------------------|----------|-------------------|
| Test:U:120.2V I:0.2030A P:23.95W PF:0.9814 Lamp Flux:1572.31x1 lm |          |                   |
| NAME: ASD-LWS12-14D24AC-NK                                        | TYPE:LED | WEIGHT:           |
| SPEC.:5000K                                                       | DIM.:    | SERIAL No.:       |
| MFR.:ASD Lighting Corp                                            | 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         | 1.13                  | 1.13 | 1.13 | 1.07                            | 1.07 | 1.07 | .96 | .96 | .96 | .86 | .86 | .86 | .77 | .77 | .77 | .73 |
| 1.0         | .93                   | .88  | .83  | .88                             | .83  | .79  | .79 | .75 | .71 | .70 | .67 | .64 | .62 | .60 | .58 | .54 |
| 2.0         | .79                   | .71  | .65  | .75                             | .68  | .62  | .67 | .61 | .56 | .60 | .55 | .51 | .53 | .49 | .46 | .42 |
| 3.0         | .69                   | .60  | .52  | .65                             | .57  | .50  | .58 | .51 | .46 | .51 | .46 | .41 | .45 | .41 | .37 | .34 |
| 4.0         | .60                   | .50  | .43  | .57                             | .48  | .41  | .51 | .44 | .38 | .45 | .39 | .35 | .40 | .35 | .31 | .28 |
| 5.0         | .53                   | .43  | .36  | .50                             | .42  | .35  | .45 | .38 | .32 | .40 | .34 | .29 | .35 | .30 | .26 | .24 |
| 6.0         | .47                   | .38  | .31  | .45                             | .36  | .30  | .40 | .33 | .28 | .36 | .30 | .25 | .32 | .27 | .23 | .20 |
| 7.0         | .42                   | .33  | .27  | .40                             | .32  | .26  | .36 | .29 | .24 | .32 | .26 | .22 | .29 | .24 | .20 | .17 |
| 8.0         | .38                   | .30  | .24  | .37                             | .28  | .23  | .33 | .26 | .21 | .30 | .24 | .19 | .26 | .21 | .18 | .15 |
| 9.0         | .35                   | .27  | .21  | .33                             | .26  | .20  | .30 | .23 | .19 | .27 | .21 | .17 | .24 | .19 | .16 | .14 |
| 10.0        | .32                   | .24  | .19  | .31                             | .23  | .18  | .28 | .21 | .17 | .25 | .19 | .15 | .22 | .18 | .14 | .12 |



C Range: 0 - 360DEG  
C Interval: 15.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:  
Test Date:2025-05-26

$\gamma$  Range: 0 - 180DEG  
 $\gamma$  Interval: 1.0DEG  
Test System:EVERFINE G0-2000A\_V1 SYSTEM V2.0.291  
Humidity:65.0%  
Test Distance:7.500m [K=1.0000]  
Remarks:

## WEC AND CCEC

|                                                                   |  |  |  |  |          |  |  |                   |  |
|-------------------------------------------------------------------|--|--|--|--|----------|--|--|-------------------|--|
| Test:U:120.2V I:0.2030A P:23.95W PF:0.9814 Lamp Flux:1572.31x1 lm |  |  |  |  |          |  |  |                   |  |
| NAME: ASD-LWS12-14D24AC-NK                                        |  |  |  |  | TYPE:LED |  |  | WEIGHT:           |  |
| SPEC.:5000K                                                       |  |  |  |  | DIM.:    |  |  | SERIAL No.:       |  |
| MFR.: ASD Lighting Corp                                           |  |  |  |  | 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         | .388                  | .220 | .070 | .372 | .212 | .067 | .343                            | .197 | .063 | .316 | .182 | .059 | .291 | .169 | .054 |   |  |
| 2.0         | .334                  | .183 | .056 | .320 | .176 | .054 | .294                            | .163 | .051 | .269 | .151 | .047 | .247 | .140 | .044 |   |  |
| 3.0         | .296                  | .158 | .047 | .284 | .152 | .046 | .260                            | .141 | .043 | .237 | .130 | .040 | .217 | .120 | .037 |   |  |
| 4.0         | .267                  | .139 | .041 | .255 | .133 | .039 | .233                            | .124 | .037 | .212 | .114 | .034 | .194 | .105 | .032 |   |  |
| 5.0         | .242                  | .123 | .036 | .231 | .119 | .035 | .211                            | .110 | .032 | .193 | .102 | .030 | .175 | .094 | .028 |   |  |
| 6.0         | .222                  | .111 | .032 | .212 | .107 | .031 | .193                            | .099 | .029 | .176 | .092 | .027 | .160 | .084 | .025 |   |  |
| 7.0         | .204                  | .101 | .029 | .195 | .097 | .028 | .178                            | .090 | .026 | .162 | .083 | .024 | .148 | .077 | .023 |   |  |
| 8.0         | .189                  | .092 | .026 | .181 | .089 | .025 | .165                            | .083 | .024 | .151 | .076 | .022 | .137 | .070 | .020 |   |  |
| 9.0         | .176                  | .085 | .024 | .169 | .082 | .023 | .154                            | .076 | .022 | .141 | .070 | .020 | .128 | .065 | .019 |   |  |
| 10.0        | .165                  | .079 | .022 | .158 | .076 | .021 | .144                            | .071 | .020 | .132 | .065 | .019 | .120 | .060 | .017 |   |  |

| 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             | .400                  | .400 | .400 | .342 | .342 | .342 | .233                                       | .233 | .233 | .134 | .134 | .134 | .043 | .043 | .043 |   |
| 1.0             | .397                  | .367 | .339 | .339 | .315 | .292 | .232                                       | .216 | .202 | .134 | .125 | .117 | .043 | .040 | .038 |   |
| 2.0             | .390                  | .344 | .305 | .334 | .296 | .264 | .229                                       | .205 | .184 | .132 | .119 | .108 | .042 | .039 | .035 |   |
| 3.0             | .383                  | .328 | .284 | .329 | .283 | .246 | .226                                       | .197 | .173 | .130 | .115 | .102 | .042 | .037 | .033 |   |
| 4.0             | .376                  | .316 | .270 | .322 | .273 | .235 | .222                                       | .190 | .165 | .128 | .111 | .098 | .041 | .036 | .032 |   |
| 5.0             | .368                  | .306 | .261 | .316 | .265 | .227 | .218                                       | .185 | .160 | .126 | .109 | .095 | .041 | .035 | .031 |   |
| 6.0             | .361                  | .299 | .254 | .310 | .259 | .221 | .214                                       | .181 | .156 | .124 | .106 | .093 | .040 | .035 | .031 |   |
| 7.0             | .354                  | .292 | .249 | .304 | .253 | .217 | .210                                       | .178 | .154 | .122 | .105 | .092 | .039 | .034 | .030 |   |
| 8.0             | .347                  | .287 | .245 | .299 | .249 | .214 | .207                                       | .175 | .152 | .120 | .103 | .090 | .039 | .034 | .030 |   |
| 9.0             | .341                  | .282 | .242 | .294 | .245 | .211 | .204                                       | .172 | .150 | .119 | .102 | .089 | .038 | .033 | .030 |   |
| 10.0            | .335                  | .278 | .240 | .289 | .241 | .209 | .201                                       | .170 | .149 | .117 | .100 | .089 | .038 | .033 | .029 |   |

C Range: 0 - 360DEG  
 C Interval: 15.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:  
 Test Date:2025-05-26

$\gamma$  Range: 0 - 180DEG  
 $\gamma$  Interval: 1.0DEG  
 Test System:EVERFINE G0-2000A\_V1 SYSTEM V2.0.291  
 Humidity:65.0%  
 Test Distance:7.500m [K=1.0000]  
 Remarks:

## UGR(Unified Glare Rating) Table

|                                                                   |                  |      |      |      |          |                |      |                   |      |      |
|-------------------------------------------------------------------|------------------|------|------|------|----------|----------------|------|-------------------|------|------|
| Test:U:120.2V I:0.2030A P:23.95W PF:0.9814 Lamp Flux:1572.31x1 lm |                  |      |      |      |          |                |      |                   |      |      |
| NAME:ASD-LWS12-14D24AC-NK                                         |                  |      |      |      | TYPE:LED |                |      | WEIGHT:           |      |      |
| SPEC.:5000K                                                       |                  |      |      |      | 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                                                     | 16.0             | 17.3 | 16.6 | 17.9 | 18.6     | 15.3           | 16.6 | 15.9              | 17.2 | 18.0 |
| 3H                                                                | 18.5             | 19.7 | 19.1 | 20.3 | 21.1     | 17.5           | 18.7 | 18.2              | 19.4 | 20.2 |
| 4H                                                                | 19.8             | 20.9 | 20.4 | 21.6 | 22.4     | 18.7           | 19.8 | 19.4              | 20.5 | 21.3 |
| 6H                                                                | 21.2             | 22.2 | 21.9 | 22.9 | 23.7     | 19.8           | 20.9 | 20.5              | 21.6 | 22.4 |
| 8H                                                                | 22.1             | 23.1 | 22.8 | 23.8 | 24.6     | 20.4           | 21.4 | 21.1              | 22.1 | 23.0 |
| 12H                                                               | 23.3             | 24.3 | 24.0 | 25.0 | 25.9     | 21.1           | 22.0 | 21.8              | 22.7 | 23.6 |
| 4H 2H                                                             | 16.7             | 17.8 | 17.3 | 18.5 | 19.3     | 16.2           | 17.3 | 16.8              | 18.0 | 18.8 |
| 3H                                                                | 19.4             | 20.3 | 20.1 | 21.1 | 21.9     | 18.6           | 19.5 | 19.3              | 20.3 | 21.1 |
| 4H                                                                | 20.8             | 21.7 | 21.5 | 22.4 | 23.3     | 19.8           | 20.7 | 20.6              | 21.5 | 22.3 |
| 6H                                                                | 22.4             | 23.2 | 23.2 | 24.0 | 24.9     | 21.1           | 21.9 | 21.9              | 22.7 | 23.6 |
| 8H                                                                | 23.4             | 24.2 | 24.2 | 24.9 | 25.9     | 21.8           | 22.5 | 22.5              | 23.3 | 24.2 |
| 12H                                                               | 24.8             | 25.5 | 25.6 | 26.3 | 27.2     | 22.5           | 23.2 | 23.3              | 24.0 | 24.9 |
| 8H 4H                                                             | 21.2             | 22.0 | 22.0 | 22.7 | 23.7     | 20.4           | 21.2 | 21.2              | 21.9 | 22.9 |
| 6H                                                                | 23.1             | 23.7 | 23.9 | 24.5 | 25.5     | 21.9           | 22.6 | 22.7              | 23.4 | 24.3 |
| 8H                                                                | 24.3             | 24.9 | 25.1 | 25.7 | 26.7     | 22.7           | 23.3 | 23.6              | 24.1 | 25.1 |
| 12H                                                               | 25.9             | 26.4 | 26.7 | 27.2 | 28.2     | 23.6           | 24.1 | 24.4              | 24.9 | 26.0 |
| 12H 4H                                                            | 21.3             | 22.0 | 22.1 | 22.8 | 23.7     | 20.6           | 21.3 | 21.3              | 22.0 | 23.0 |
| 6H                                                                | 23.3             | 23.8 | 24.1 | 24.6 | 25.6     | 22.2           | 22.8 | 23.0              | 23.6 | 24.6 |
| 8H                                                                | 24.5             | 25.0 | 25.4 | 25.9 | 26.9     | 23.1           | 23.6 | 23.9              | 24.4 | 25.4 |
| Variations with the observer position at spacings:                |                  |      |      |      |          |                |      |                   |      |      |
| S = 1.0H                                                          | + 0.1 / - 0.1    |      |      |      |          | + 0.1 / - 0.1  |      |                   |      |      |
| 1.5H                                                              | + 0.2 / - 0.3    |      |      |      |          | + 0.2 / - 0.2  |      |                   |      |      |
| 2.0H                                                              | + 0.3 / - 0.4    |      |      |      |          | + 0.2 / - 0.3  |      |                   |      |      |

CIE Pub.117 Corrected 1572 lm Total Lamp Luminous Flux.(8log(F/F0) = 1.6)

C Range: 0 - 360DEG  
 C Interval: 15.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:  
 Test Date:2025-05-26

γ Range: 0 - 180DEG  
 γ Interval: 1.0DEG  
 Test System:EVERFINE G0-2000A\_V1 SYSTEM V2.0.291  
 Humidity:65.0%  
 Test Distance:7.500m [K=1.0000]  
 Remarks:

## UTILIZATION FACTORS TABLE

|                                                                   |          |                   |
|-------------------------------------------------------------------|----------|-------------------|
| Test:U:120.2V I:0.2030A P:23.95W PF:0.9814 Lamp Flux:1572.31x1 lm |          |                   |
| NAME: ASD-LWS12-14D24AC-NK                                        | TYPE:LED | WEIGHT:           |
| SPEC.:5000K                                                       | DIM.:    | SERIAL No.:       |
| MFR.: ASD Lighting Corp                                           | SUR.:    | PROTECTION ANGLE: |

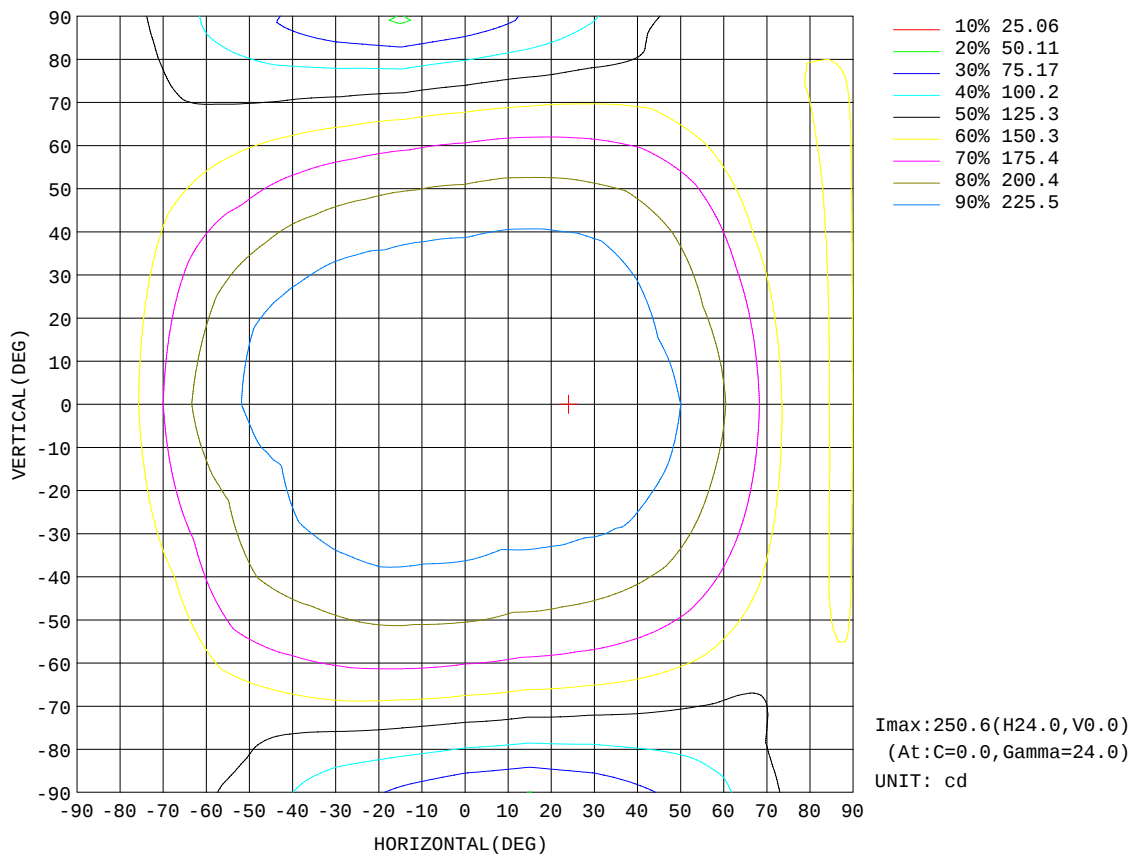
| REFLECTANCE                      |                                                     |     |           |     |     |     |     |               |     |        |
|----------------------------------|-----------------------------------------------------|-----|-----------|-----|-----|-----|-----|---------------|-----|--------|
| 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) $k(RI) \times RCR = 5$ |     |           |     |     |     |     |               |     |        |
| $k = 0.60$                       | 44                                                  | 31  | 24        | 42  | 31  | 24  | 40  | 29            | 23  | 16     |
| 0.80                             | 53                                                  | 40  | 31        | 51  | 39  | 31  | 47  | 37            | 30  | 21     |
| 1.00                             | 61                                                  | 47  | 39        | 58  | 46  | 38  | 54  | 46            | 36  | 27     |
| 1.25                             | 68                                                  | 54  | 46        | 65  | 53  | 44  | 59  | 49            | 42  | 31     |
| 1.50                             | 73                                                  | 60  | 51        | 70  | 58  | 50  | 64  | 54            | 47  | 35     |
| 2.00                             | 80                                                  | 69  | 60        | 77  | 66  | 58  | 70  | 61            | 54  | 41     |
| 2.50                             | 85                                                  | 74  | 66        | 81  | 71  | 64  | 73  | 65            | 59  | 44     |
| 3.00                             | 89                                                  | 79  | 71        | 84  | 76  | 69  | 76  | 69            | 64  | 48     |
| 4.00                             | 94                                                  | 85  | 78        | 89  | 82  | 75  | 80  | 74            | 69  | 52     |
| 5.00                             | 97                                                  | 90  | 83        | 92  | 85  | 80  | 83  | 78            | 73  | 55     |
| 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:2025-05-26

γ Range: 0 - 180DEG  
 γ Interval: 1.0DEG  
 Test System:EVERFINE G0-2000A\_V1 SYSTEM V2.0.291  
 Humidity:65.0%  
 Test Distance:7.500m [K=1.0000]  
 Remarks:

## ISOCANDELA DIAGRAM

|                                                                   |          |                   |
|-------------------------------------------------------------------|----------|-------------------|
| Test:U:120.2V I:0.2030A P:23.95W PF:0.9814 Lamp Flux:1572.31x1 lm |          |                   |
| NAME:ASD-LWS12-14D24AC-NK                                         | TYPE:LED | WEIGHT:           |
| SPEC.:5000K                                                       | DIM.:    | SERIAL No.:       |
| MFR.: ASD Lighting Corp                                           | SUR.:    | PROTECTION ANGLE: |

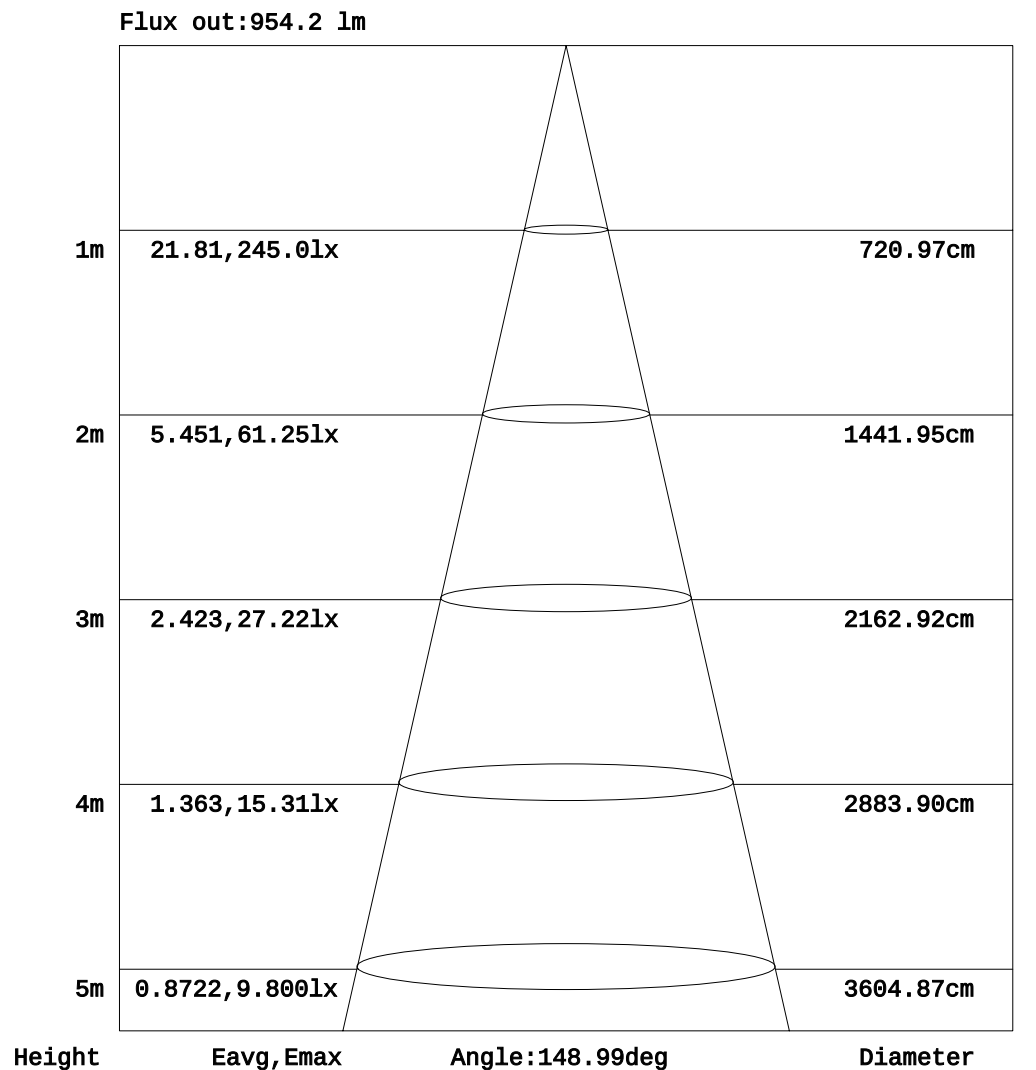


C Range: 0 - 360DEG  
C Interval: 15.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:  
Test Date:2025-05-26

$\gamma$  Range: 0 - 180DEG  
 $\gamma$  Interval: 1.0DEG  
Test System:EVERFINE G0-2000A\_V1 SYSTEM V2.0.291  
Humidity:65.0%  
Test Distance:7.500m [K=1.0000]  
Remarks:

## AAI Figure

|                                                                   |          |                   |
|-------------------------------------------------------------------|----------|-------------------|
| Test:U:120.2V I:0.2030A P:23.95W PF:0.9814 Lamp Flux:1572.31x1 lm |          |                   |
| NAME: ASD-LWS12-14D24AC-NK                                        | TYPE:LED | WEIGHT:           |
| SPEC.:5000K                                                       | DIM.:    | SERIAL No.:       |
| MFR.: ASD Lighting Corp                                           | SUR.:    | PROTECTION ANGLE: |



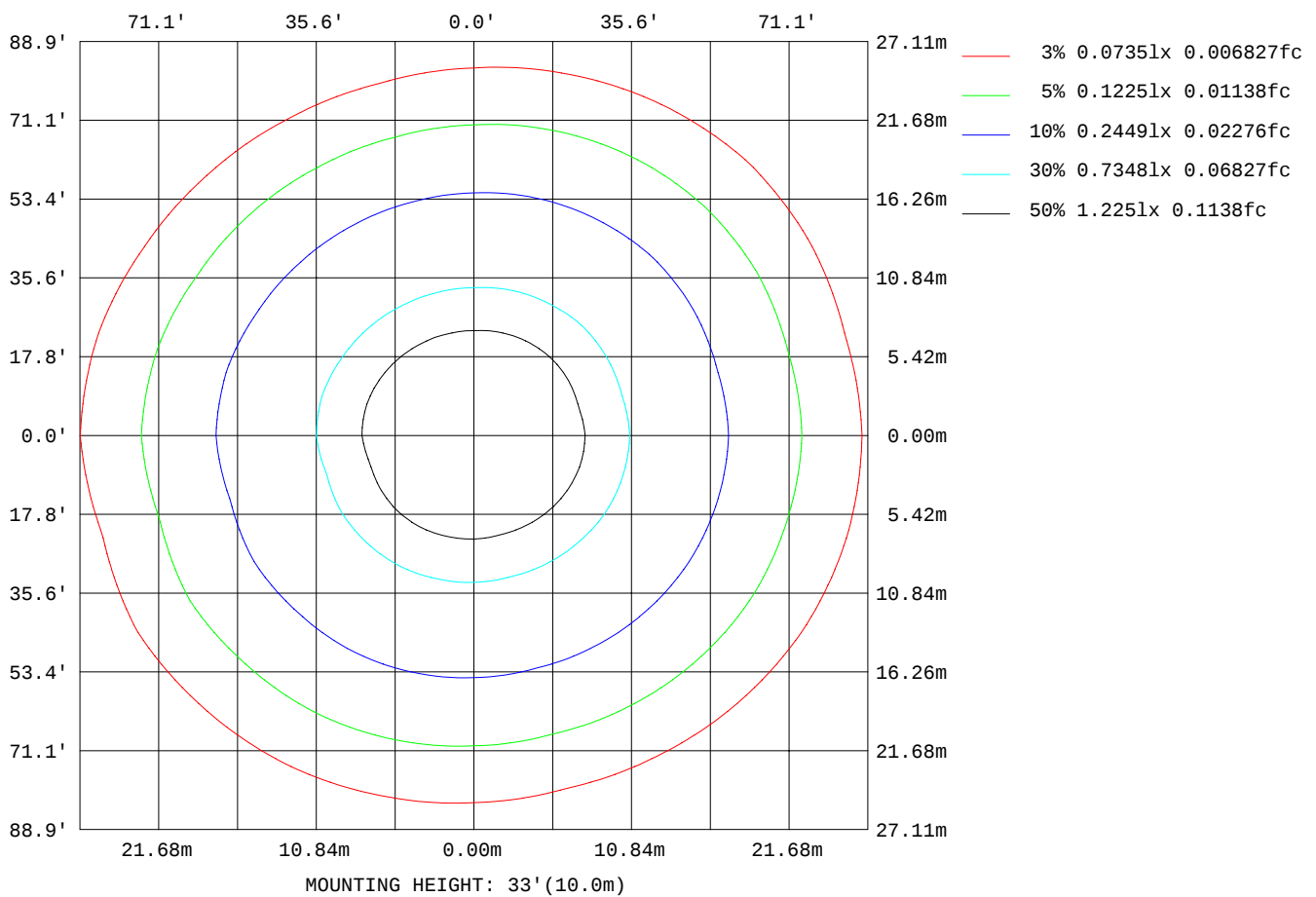
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG  
 C Interval: 15.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:  
 Test Date:2025-05-26

γ Range: 0 - 180DEG  
 γ Interval: 1.0DEG  
 Test System:EVERFINE G0-2000A\_V1 SYSTEM V2.0.291  
 Humidity:65.0%  
 Test Distance:7.500m [K=1.0000]  
 Remarks:

## ISOLUX DIAGRAM

|                                                                   |          |                   |
|-------------------------------------------------------------------|----------|-------------------|
| Test:U:120.2V I:0.2030A P:23.95W PF:0.9814 Lamp Flux:1572.31x1 lm |          |                   |
| NAME: ASD-LWS12-14D24AC-NK                                        | TYPE:LED | WEIGHT:           |
| SPEC.:5000K                                                       | 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: 2025-05-26

γ Range: 0 - 180DEG  
 γ Interval: 1.0DEG  
 Test System: EVERFINE G0-2000A\_V1 SYSTEM V2.0.291  
 Humidity: 65.0%  
 Test Distance: 7.500m [K=1.0000]  
 Remarks:

## LED Avg.L Report

|                                                                   |          |                   |
|-------------------------------------------------------------------|----------|-------------------|
| Test:U:120.2V I:0.2030A P:23.95W PF:0.9814 Lamp Flux:1572.31x1 lm |          |                   |
| NAME: ASD-LWS12-14D24AC-NK                                        | TYPE:LED | WEIGHT:           |
| SPEC.:5000K                                                       | DIM.:    | SERIAL No.:       |
| MFR.: ASD Lighting Corp                                           | SUR.:    | PROTECTION ANGLE: |

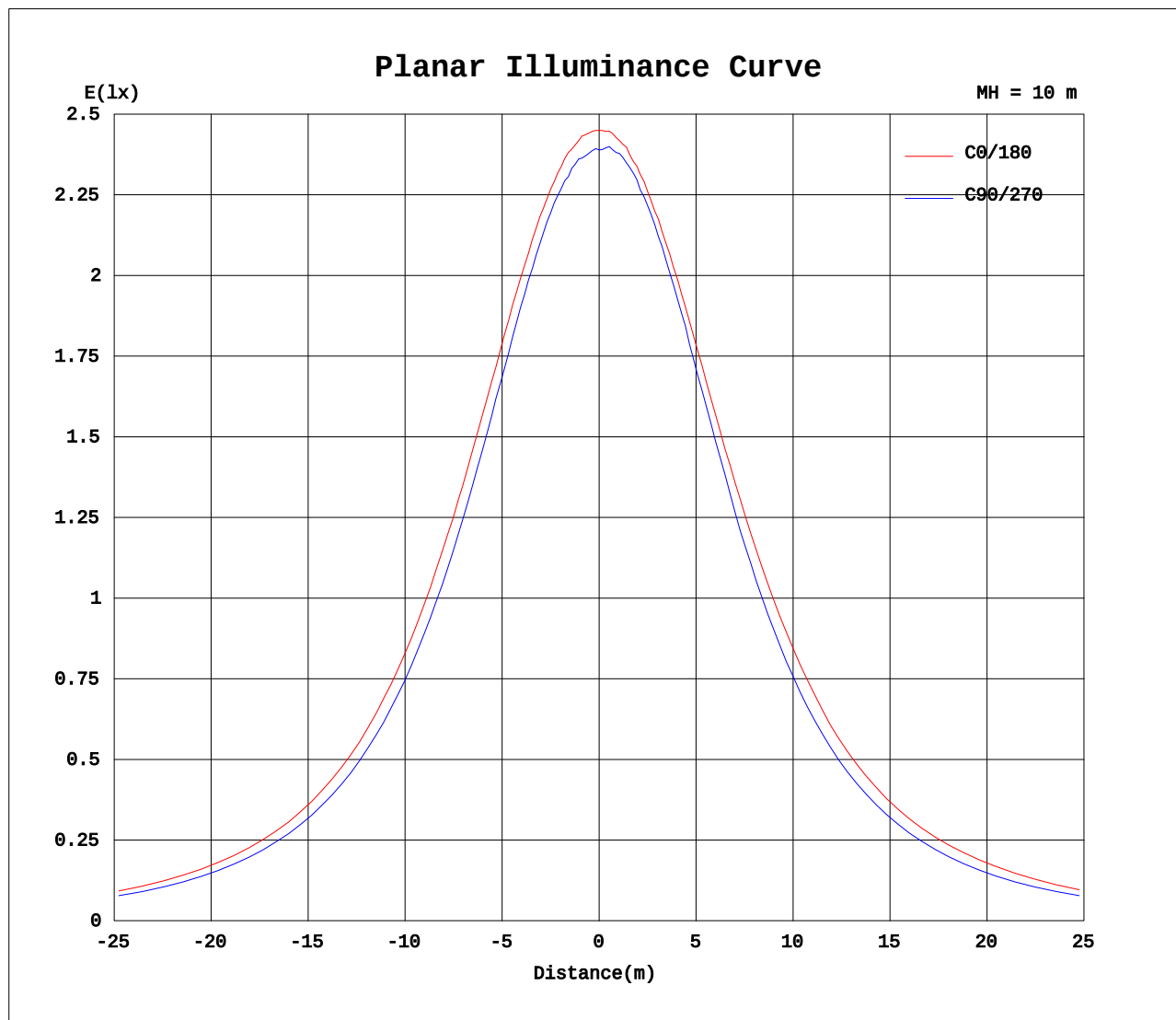
| AvgL           | cd/m2 |
|----------------|-------|
| L_0~180(65)av  | 4540  |
| L_0~180(75)av  | 5729  |
| L_0~180(85)av  | 17149 |
| L_90~270(65)av | 3788  |
| L_90~270(75)av | 4647  |
| L_90~270(85)av | 8823  |
| L_45(65)av     | 4129  |
| L_45(75)av     | 5331  |
| L_45(85)av     | 12254 |

Standard: GB/T 29293-2012

C Range: 0 - 360DEG  
C Interval: 15.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:  
Test Date:2025-05-26

γ Range: 0 - 180DEG  
γ Interval: 1.0DEG  
Test System:EVERFINE G0-2000A\_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: 2025-05-26

$\gamma$  Range: 0 - 180DEG  
 $\gamma$  Interval: 1.0DEG  
Test System: EVERFINE G0-2000A\_V1 SYSTEM V2.0.291  
Humidity: 65.0%  
Test Distance: 7.500m [K=1.0000]  
Remarks:

## LUMINOUS DISTRIBUTION INTENSITY DATA

|                                                                   |          |                   |
|-------------------------------------------------------------------|----------|-------------------|
| Test:U:120.2V I:0.2030A P:23.95W PF:0.9814 Lamp Flux:1572.31x1 lm |          |                   |
| NAME: ASD-LWS12-14D24AC-NK                                        | TYPE:LED | WEIGHT:           |
| SPEC.:5000K                                                       | 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                  | 245  | 244  | 242  | 241  | 241  | 240  | 239  | 239  | 239   | 238  | 238  | 238  | 245  | 244  | 242  | 241  | 241  | 240  | 239  |
| 5                  | 246  | 245  | 243  | 242  | 240  | 240  | 239  | 239  | 238   | 238  | 238  | 238  | 246  | 244  | 244  | 243  | 242  | 242  | 241  |
| 10                 | 247  | 246  | 244  | 242  | 242  | 241  | 240  | 240  | 239   | 239  | 239  | 240  | 246  | 246  | 246  | 245  | 244  | 243  | 243  |
| 15                 | 249  | 247  | 245  | 243  | 241  | 240  | 241  | 240  | 241   | 240  | 239  | 240  | 248  | 248  | 248  | 246  | 245  | 244  | 243  |
| 20                 | 249  | 248  | 245  | 242  | 240  | 239  | 239  | 240  | 241   | 240  | 240  | 240  | 249  | 249  | 249  | 247  | 245  | 243  | 242  |
| 25                 | 250  | 248  | 244  | 241  | 237  | 236  | 236  | 238  | 240   | 240  | 239  | 240  | 249  | 250  | 248  | 246  | 243  | 241  | 240  |
| 30                 | 249  | 246  | 242  | 238  | 234  | 231  | 233  | 236  | 237   | 239  | 239  | 240  | 249  | 249  | 247  | 242  | 240  | 237  | 237  |
| 35                 | 246  | 244  | 240  | 234  | 228  | 225  | 227  | 229  | 234   | 236  | 237  | 237  | 247  | 248  | 243  | 238  | 234  | 231  | 231  |
| 40                 | 243  | 240  | 234  | 226  | 221  | 218  | 220  | 223  | 228   | 231  | 233  | 233  | 244  | 243  | 238  | 231  | 225  | 223  | 223  |
| 45                 | 235  | 232  | 227  | 218  | 213  | 209  | 211  | 214  | 220   | 223  | 227  | 225  | 239  | 237  | 229  | 221  | 216  | 213  | 214  |
| 50                 | 226  | 222  | 217  | 209  | 203  | 199  | 202  | 205  | 210   | 215  | 219  | 216  | 229  | 228  | 218  | 211  | 204  | 202  | 203  |
| 55                 | 214  | 210  | 205  | 197  | 192  | 187  | 190  | 194  | 199   | 203  | 209  | 206  | 219  | 217  | 205  | 197  | 191  | 189  | 191  |
| 60                 | 202  | 197  | 191  | 185  | 178  | 174  | 176  | 182  | 188   | 191  | 199  | 196  | 208  | 203  | 191  | 183  | 177  | 175  | 177  |
| 65                 | 188  | 182  | 177  | 170  | 163  | 158  | 160  | 166  | 173   | 179  | 189  | 183  | 196  | 188  | 174  | 166  | 160  | 157  | 160  |
| 70                 | 168  | 166  | 161  | 152  | 144  | 138  | 141  | 147  | 156   | 163  | 170  | 163  | 175  | 170  | 157  | 148  | 140  | 137  | 141  |
| 75                 | 144  | 146  | 141  | 132  | 123  | 118  | 120  | 127  | 136   | 143  | 149  | 142  | 153  | 150  | 140  | 129  | 120  | 115  | 121  |
| 80                 | 135  | 132  | 122  | 112  | 102  | 95.7 | 99.0 | 108  | 117   | 127  | 139  | 138  | 142  | 138  | 123  | 108  | 97.6 | 90.9 | 98.9 |
| 85                 | 154  | 132  | 108  | 92.9 | 80.2 | 72.3 | 77.6 | 88.6 | 100.0 | 117  | 138  | 144  | 145  | 134  | 108  | 88.2 | 74.2 | 65.1 | 76.2 |
| 90                 | 150  | 130  | 96.1 | 76.0 | 60.3 | 49.8 | 58.1 | 71.6 | 86.3  | 107  | 129  | 132  | 144  | 128  | 97.0 | 77.6 | 61.1 | 49.5 | 61.3 |
| 95                 | 127  | 121  | 97.8 | 78.2 | 63.6 | 54.5 | 63.5 | 76.2 | 91.3  | 107  | 119  | 115  | 131  | 123  | 104  | 90.3 | 76.4 | 67.5 | 76.2 |
| 100                | 112  | 117  | 104  | 84.8 | 71.2 | 69.1 | 74.3 | 77.3 | 95.9  | 107  | 108  | 84.7 | 118  | 121  | 112  | 103  | 90.9 | 82.7 | 90.6 |
| 105                | 94.2 | 116  | 97.3 | 67.4 | 54.0 | 53.2 | 58.7 | 52.4 | 87.3  | 101  | 86.4 | 67.8 | 103  | 119  | 120  | 115  | 102  | 93.5 | 102  |
| 110                | 82.3 | 105  | 80.1 | 41.6 | 34.9 | 41.1 | 49.8 | 54.2 | 58.3  | 76.2 | 73.9 | 62.0 | 82.0 | 105  | 119  | 119  | 105  | 96.5 | 103  |
| 115                | 70.7 | 74.5 | 57.8 | 59.1 | 55.7 | 65.9 | 80.6 | 71.5 | 66.2  | 50.3 | 52.2 | 47.8 | 56.4 | 85.4 | 114  | 114  | 99.9 | 92.9 | 97.8 |
| 120                | 50.7 | 52.7 | 67.9 | 57.1 | 60.0 | 70.7 | 74.0 | 68.4 | 81.4  | 65.5 | 47.3 | 41.3 | 46.7 | 76.3 | 111  | 105  | 94.8 | 89.6 | 91.4 |
| 125                | 45.9 | 59.2 | 62.3 | 52.3 | 49.8 | 55.2 | 54.4 | 59.3 | 80.8  | 78.8 | 67.0 | 62.2 | 60.2 | 78.0 | 105  | 97.4 | 88.2 | 84.0 | 83.9 |
| 130                | 55.6 | 59.5 | 54.4 | 46.5 | 42.6 | 44.0 | 44.7 | 37.8 | 81.3  | 82.5 | 77.1 | 74.5 | 67.0 | 78.3 | 95.0 | 89.5 | 81.7 | 78.3 | 76.7 |
| 135                | 55.2 | 53.5 | 55.8 | 39.7 | 30.3 | 30.2 | 33.8 | 42.3 | 61.6  | 76.2 | 78.6 | 77.3 | 61.7 | 68.5 | 82.7 | 79.8 | 75.4 | 72.2 | 69.7 |
| 140                | 48.7 | 48.5 | 49.0 | 47.3 | 33.9 | 33.6 | 41.7 | 46.4 | 47.4  | 56.6 | 73.6 | 68.2 | 46.6 | 51.8 | 68.5 | 66.1 | 67.6 | 65.6 | 62.7 |
| 145                | 46.7 | 45.9 | 35.0 | 36.0 | 38.5 | 39.1 | 35.2 | 33.5 | 37.3  | 44.6 | 51.0 | 49.4 | 34.0 | 36.0 | 48.3 | 53.1 | 57.4 | 57.6 | 54.5 |
| 150                | 40.5 | 38.6 | 32.9 | 21.3 | 24.0 | 25.6 | 19.1 | 13.2 | 25.7  | 47.6 | 46.3 | 41.6 | 28.6 | 27.6 | 30.7 | 40.7 | 47.7 | 48.0 | 44.4 |
| 155                | 36.0 | 37.0 | 25.7 | 22.1 | 14.0 | 10.2 | 14.4 | 17.8 | 17.0  | 29.2 | 39.9 | 42.1 | 27.0 | 18.4 | 18.7 | 24.0 | 29.9 | 31.8 | 31.0 |
| 160                | 27.4 | 26.0 | 22.6 | 20.1 | 18.7 | 20.7 | 22.8 | 19.3 | 13.5  | 13.9 | 18.2 | 21.8 | 15.5 | 10.8 | 13.4 | 13.8 | 17.8 | 20.1 | 20.9 |
| 165                | 19.4 | 19.2 | 18.0 | 15.1 | 15.5 | 20.0 | 19.9 | 13.0 | 14.8  | 14.9 | 16.3 | 11.8 | 8.81 | 7.78 | 9.06 | 11.8 | 11.8 | 13.0 | 14.7 |
| 170                | 15.6 | 16.3 | 15.1 | 12.6 | 14.0 | 15.3 | 16.2 | 17.8 | 20.2  | 22.2 | 22.2 | 15.6 | 8.03 | 9.22 | 10.8 | 12.6 | 14.7 | 14.0 | 13.2 |
| 175                | 12.2 | 14.3 | 16.9 | 15.7 | 12.6 | 14.4 | 16.9 | 19.1 | 19.0  | 19.2 | 19.3 | 16.6 | 7.65 | 8.77 | 9.43 | 9.41 | 10.0 | 11.0 | 11.1 |
| 180                | 10.4 | 10.8 | 9.71 | 7.83 | 8.74 | 9.07 | 10.4 | 13.9 | 15.8  | 16.6 | 17.5 | 17.8 | 10.5 | 10.8 | 9.82 | 7.86 | 8.78 | 9.10 | 10.5 |

C Range: 0 - 360DEG  
 C Interval: 15.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:  
 Test Date:2025-05-26

γ Range: 0 - 180DEG  
 γ Interval: 1.0DEG  
 Test System:EVERFINE G0-2000A\_V1 SYSTEM V2.0.291  
 Humidity:65.0%  
 Test Distance:7.500m [K=1.0000]  
 Remarks:

## LUMINOUS DISTRIBUTION INTENSITY DATA

|                                                                   |          |                   |
|-------------------------------------------------------------------|----------|-------------------|
| Test:U:120.2V I:0.2030A P:23.95W PF:0.9814 Lamp Flux:1572.31x1 lm |          |                   |
| NAME: ASD-LWS12-14D24AC-NK                                        | TYPE:LED | WEIGHT:           |
| SPEC.:5000K                                                       | 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                  | 239  | 239  | 238  | 238  | 238  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 5                  | 241  | 240  | 239  | 239  | 238  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 10                 | 242  | 242  | 242  | 240  | 240  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 15                 | 243  | 243  | 243  | 242  | 241  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 20                 | 243  | 244  | 244  | 243  | 242  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 25                 | 241  | 243  | 245  | 244  | 242  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 30                 | 239  | 241  | 244  | 244  | 241  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 35                 | 235  | 238  | 241  | 241  | 239  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 40                 | 228  | 234  | 237  | 238  | 235  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 45                 | 220  | 224  | 230  | 230  | 228  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 50                 | 209  | 215  | 222  | 221  | 219  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 55                 | 196  | 203  | 210  | 211  | 208  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 60                 | 183  | 190  | 197  | 198  | 197  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 65                 | 168  | 175  | 182  | 185  | 183  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 70                 | 149  | 158  | 167  | 167  | 162  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 75                 | 130  | 141  | 149  | 146  | 138  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 80                 | 111  | 124  | 134  | 136  | 130  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 85                 | 91.5 | 110  | 129  | 142  | 140  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 90                 | 78.0 | 98.4 | 125  | 144  | 144  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 95                 | 89.4 | 102  | 118  | 126  | 121  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 100                | 102  | 109  | 116  | 110  | 84.9 |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 105                | 112  | 116  | 116  | 91.0 | 64.0 |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 110                | 114  | 110  | 107  | 84.0 | 63.3 |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 115                | 105  | 95.7 | 88.2 | 74.6 | 59.8 |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 120                | 93.3 | 81.5 | 66.4 | 55.1 | 46.9 |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 125                | 82.1 | 71.4 | 55.8 | 42.7 | 40.1 |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 130                | 72.5 | 64.7 | 56.2 | 49.2 | 49.3 |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 135                | 65.2 | 58.5 | 51.7 | 52.2 | 53.1 |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 140                | 57.6 | 51.5 | 46.2 | 47.7 | 47.3 |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 145                | 49.0 | 42.0 | 41.3 | 45.2 | 46.5 |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 150                | 37.3 | 34.0 | 34.9 | 41.4 | 43.3 |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 155                | 27.5 | 27.5 | 30.7 | 35.0 | 38.5 |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 160                | 21.5 | 21.7 | 24.1 | 29.3 | 32.2 |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 165                | 16.9 | 18.0 | 20.1 | 22.7 | 25.0 |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 170                | 13.3 | 15.9 | 17.7 | 19.6 | 21.9 |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 175                | 11.4 | 12.1 | 13.6 | 15.1 | 16.7 |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 180                | 13.9 | 15.9 | 16.7 | 17.4 | 17.8 |  |  |  |  |  |  |  |  |  |  |  |  |  |

C Range: 0 - 360DEG  
 C Interval: 15.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:  
 Test Date:2025-05-26

γ Range: 0 - 180DEG  
 γ Interval: 1.0DEG  
 Test System:EVERFINE G0-2000A\_V1 SYSTEM V2.0.291  
 Humidity:65.0%  
 Test Distance:7.500m [K=1.0000]  
 Remarks: