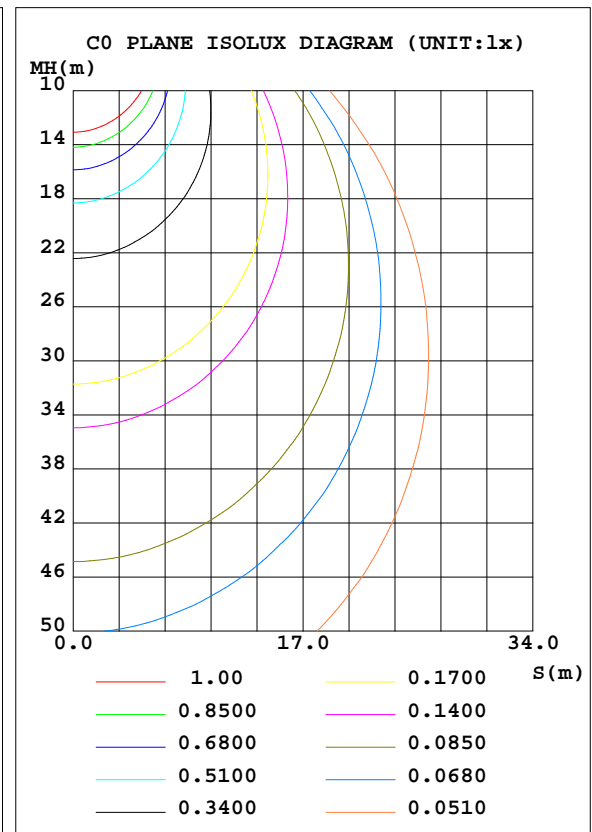
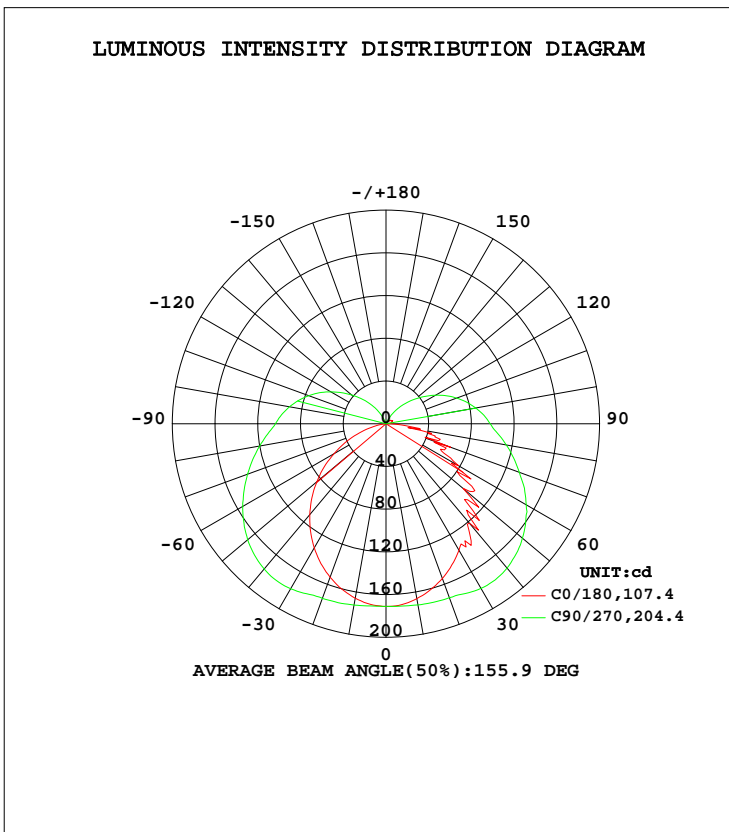


LUMINAIRE PHOTOMETRIC TEST REPORT

|   |           |                     |
|---|-----------|---------------------|
| Test:U:120.1V I:0.1218A P:14.53W PF:0.9933 Lamp Flux:790x1 lm |           |                     |
| NAME: ASD-OLWS-22-MV-12N15CC-BZ 3000K                         | TYPE:N/A  | WEIGHT:N/A          |
| SPEC.:N/A   | DIM.: N/A | SERIAL No.:N/A      |
| MFR.: ASD Lighting corp                                       | SUR.:N/A  | Shielding Angle:N/A |

| DATA OF LAMP     |                   | PHOTOMETRIC DATA Eff: 61.21 lm/W |         |                         |           |
|------------------|-------------------|----------------------------------|---------|-------------------------|-----------|
| MODEL            | PSZ2S220516018-10 | Imax(cd)                         | 179.1   | S/MH(C0/180)            | 1.20      |
| NOMINAL POWER(W) |                   | LOR(%)                           | 100.0   | S/MH(C90/270)           | 1.59      |
| RATED VOLTAGE(V) | 120               | TOTAL FLUX(lm)                   | 790     | $\eta$ UP, DN(C0-180)   | 10.3,40.1 |
| NOMINAL FLUX(lm) | 790               | CIE CLASS                        | SEMI-D. | $\eta$ UP, DN(C180-360) | 9.4,40.1  |
| LAMPS INSIDE     | 1                 | $\eta$ up(%)                     | 19.7    | CIBSE SHR NOM           | 1.50      |
| TEST VOLTAGE(V)  | 120               | $\eta$ down(%)                   | 80.3    | CIBSE SHR MAX           | 1.55      |



C Range: 0 - 360DEG  
 C Interval: 22.5DEG  
 Test Speed: HIGH  
 Temperature:25.6DEG  
 Operators:Carl  
 Test Date:2022-05-30

$\gamma$  Range: 0 - 180DEG  
 $\gamma$  Interval: 1.0DEG  
 Test System:EVERFINE GO-R5000\_V2 SYSTEM V2.0.351  
 Humidity:39%  
 Test Distance:2.526m [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       | 165.9                 | 168.8  | 172.4  | 169.8  | 166.4  | 169.1  | 172.3  | 168.9  | 0- 10    | 16.24       | 16.24        | 1.83,1.83  |
| 20       | 153.0                 | 163.2  | 174.0  | 165.1  | 154.2  | 163.6  | 173.3  | 163.2  | 10- 20   | 47.18       | 63.41        | 7.13,7.13  |
| 30       | 134.2                 | 153.5  | 178.5  | 157.5  | 136.7  | 154.9  | 178.0  | 154.6  | 20- 30   | 73.96       | 137.4        | 15.4,15.4  |
| 40       | 111.0                 | 145.5  | 177.5  | 151.0  | 121.5  | 152.1  | 176.4  | 147.3  | 30- 40   | 95.53       | 232.9        | 26.2,26.2  |
| 50       | 84.67                 | 131.9  | 169.0  | 138.6  | 94.14  | 135.7  | 166.8  | 132.6  | 40- 50   | 108.3       | 341.3        | 38.4,38.4  |
| 60       | 56.39                 | 113.6  | 154.9  | 121.3  | 78.24  | 122.4  | 151.6  | 114.0  | 50- 60   | 110.6       | 451.8        | 50.8,50.8  |
| 70       | 28.99                 | 93.10  | 137.9  | 102.7  | 64.53  | 97.49  | 132.8  | 93.25  | 60- 70   | 102.9       | 554.7        | 62.4,62.4  |
| 80       | 6.774                 | 74.18  | 120.2  | 84.52  | 20.92  | 79.60  | 114.4  | 74.07  | 70- 80   | 88.22       | 643.0        | 72.3,72.3  |
| 90       | 0.0572                | 59.25  | 103.6  | 68.03  | 4.012  | 61.37  | 97.57  | 59.35  | 80- 90   | 70.88       | 713.8        | 80.3,80.3  |
| 100      | 0.0751                | 49.38  | 91.82  | 58.01  | 4.271  | 52.18  | 85.42  | 48.96  | 90-100   | 57.78       | 771.6        | 86.8,86.8  |
| 110      | 0.0877                | 38.46  | 77.03  | 46.55  | 6.064  | 38.94  | 70.46  | 37.62  | 100-110  | 46.33       | 817.9        | 92,92      |
| 120      | 0.1120                | 27.49  | 59.85  | 33.16  | 6.383  | 27.08  | 53.58  | 26.12  | 110-120  | 33.57       | 851.5        | 95.7,95.7  |
| 130      | 0.1583                | 17.70  | 42.05  | 22.22  | 4.870  | 16.74  | 36.45  | 16.13  | 120-130  | 21.15       | 872.7        | 98.1,98.1  |
| 140      | 0.2358                | 8.728  | 25.97  | 11.63  | 3.341  | 7.117  | 21.14  | 7.507  | 130-140  | 11.25       | 883.9        | 99.4,99.4  |
| 150      | 0.3502                | 0.8156 | 11.48  | 2.454  | 2.065  | 1.313  | 7.541  | 0.8754 | 140-150  | 4.417       | 888.3        | 99.9,99.9  |
| 160      | 0.4353                | 0.4736 | 0.6225 | 0.8499 | 1.080  | 0.8352 | 0.6912 | 0.3530 | 150-160  | 0.8070      | 889.1        | 100,100    |
| 170      | 0.3762                | 0.4534 | 0.6316 | 0.8951 | 0.7131 | 0.7081 | 0.4937 | 0.4457 | 160-170  | 0.1806      | 889.3        | 100,100    |
| 180      | 0.7682                | 0.5859 | 0.4268 | 0.5091 | 0.5857 | 0.5822 | 0.4734 | 0.4339 | 170-180  | 0.0513      | 889.4        | 100,100    |
| DEG      | LUMINOUS INTENSITY:cd |        |        |        |        |        |        |        |          | UNIT:lm     |              |            |

Conical surface Flux(90deg): 286.23 lm

%lum = 32.2%

%lamp = 32.2%

Conical surface Flux(120deg): 451.85 lm

%lum = 50.8%

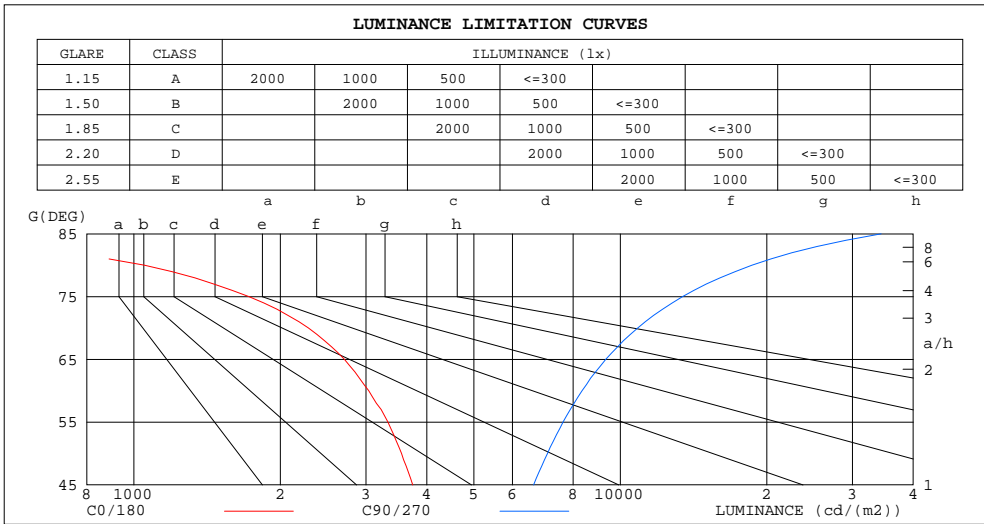
%lamp = 50.8%

C Range: 0 - 360DEG  
 C Interval: 22.5DEG  
 Test Speed: HIGH  
 Temperature:25.6DEG  
 Operators:Carl  
 Test Date:2022-05-30

$\gamma$  Range: 0 - 180DEG  
 $\gamma$  Interval: 1.0DEG  
 Test System:EVERFINE GO-R5000\_V2 SYSTEM V2.0.351  
 Humidity:39%  
 Test Distance:2.526m [K=1.0000]  
 Remarks:

LUMINANCE LIMITATION CURVES

|   |           |                     |
|---|-----------|---------------------|
| Test:U:120.1V I:0.1218A P:14.53W PF:0.9933 Lamp Flux:790x1 lm |           |                     |
| NAME: ASD-OLWS-22-MV-12N15CC-BZ 3000K                         | TYPE:N/A  | WEIGHT:N/A          |
| SPEC.:N/A   | DIM.: N/A | SERIAL No.:N/A      |
| MFR.: ASD Lighting corp                                       | SUR.:N/A  | Shielding Angle:N/A |



| LUMINANCE cd/(m2) |        |         |
|-------------------|--------|---------|
| G(DEG)            | C0/180 | C90/270 |
| 85                | 83     | 34362   |
| 80                | 1051   | 18639   |
| 75                | 1723   | 13433   |
| 70                | 2284   | 10861   |
| 65                | 2709   | 9337    |
| 60                | 3038   | 8345    |
| 55                | 3329   | 7624    |
| 50                | 3549   | 7083    |
| 45                | 3744   | 6632    |

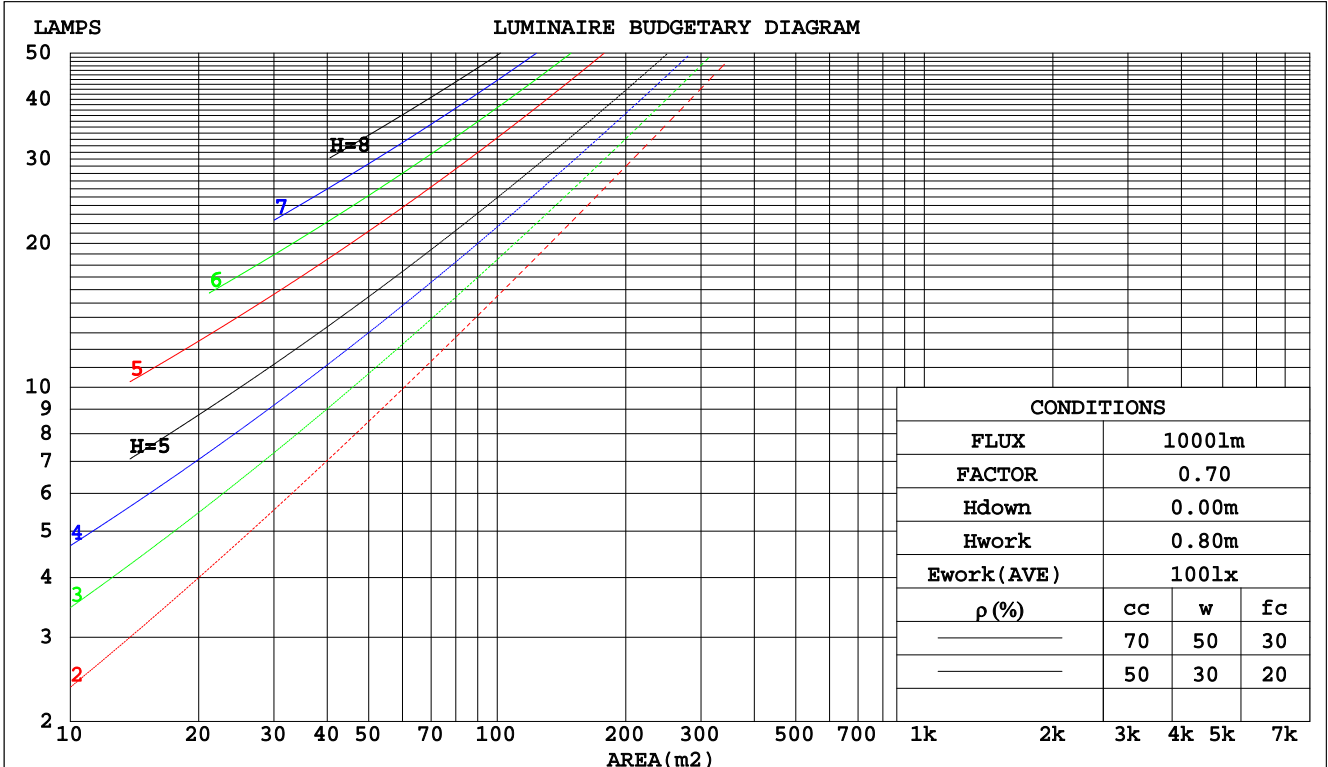
C Range: 0 - 360DEG  
 C Interval: 22.5DEG  
 Test Speed: HIGH  
 Temperature:25.6DEG  
 Operators:Carl  
 Test Date:2022-05-30

γ Range: 0 - 180DEG  
 γ Interval: 1.0DEG  
 Test System:EVERFINE GO-R5000\_V2 SYSTEM V2.0.351  
 Humidity:39%  
 Test Distance:2.526m [K=1.0000]  
 Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

|   |           |                     |
|---|-----------|---------------------|
| Test:U:120.1V I:0.1218A P:14.53W PF:0.9933 Lamp Flux:790x1 lm |           |                     |
| NAME: ASD-OLWS-22-MV-12N15CC-BZ 3000K                         | TYPE:N/A  | WEIGHT:N/A          |
| SPEC.:N/A   | DIM.: N/A | SERIAL No.:N/A      |
| MFR.: ASD Lighting corp                                       | SUR.:N/A  | Shielding Angle:N/A |

| 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  | 1.14                            | 1.14 | 1.14 | 1.09 | 1.09 | 1.09 | 1.00 | 1.00 | 1.00 | .92 | .92 | .92 | .84 | .84 | .84 | .80 |
| 1.0  | .95                             | .89  | .84  | .90  | .86  | .81  | .82  | .78  | .75  | .75 | .72 | .69 | .68 | .66 | .64 | .60 |
| 2.0  | .81                             | .73  | .66  | .77  | .70  | .64  | .70  | .64  | .59  | .64 | .59 | .55 | .58 | .54 | .51 | .47 |
| 3.0  | .70                             | .61  | .53  | .67  | .58  | .52  | .61  | .54  | .48  | .55 | .50 | .45 | .50 | .46 | .42 | .38 |
| 4.0  | .61                             | .52  | .44  | .58  | .50  | .43  | .53  | .46  | .40  | .49 | .42 | .37 | .44 | .39 | .35 | .32 |
| 5.0  | .54                             | .44  | .37  | .52  | .43  | .36  | .47  | .40  | .34  | .43 | .37 | .32 | .39 | .34 | .30 | .27 |
| 6.0  | .48                             | .39  | .32  | .46  | .38  | .31  | .42  | .35  | .29  | .39 | .32 | .28 | .36 | .30 | .26 | .23 |
| 7.0  | .44                             | .34  | .28  | .42  | .33  | .27  | .38  | .31  | .26  | .35 | .29 | .24 | .32 | .27 | .23 | .20 |
| 8.0  | .39                             | .31  | .25  | .38  | .30  | .24  | .35  | .28  | .23  | .32 | .26 | .21 | .30 | .24 | .20 | .18 |
| 9.0  | .36                             | .28  | .22  | .35  | .27  | .21  | .32  | .25  | .20  | .30 | .23 | .19 | .27 | .22 | .18 | .16 |
| 10.0 | .33                             | .25  | .20  | .32  | .24  | .19  | .30  | .23  | .18  | .27 | .21 | .17 | .25 | .20 | .16 | .14 |



C Range: 0 - 360DEG  
 C Interval: 22.5DEG  
 Test Speed: HIGH  
 Temperature: 25.6DEG  
 Operators: Carl  
 Test Date: 2022-05-30

γ Range: 0 - 180DEG  
 γ Interval: 1.0DEG  
 Test System: EVERFINE GO-R5000\_V2 SYSTEM V2.0.351  
 Humidity: 39%  
 Test Distance: 2.526m [K=1.0000]  
 Remarks:

WEC AND CCEC

|   |           |                     |
|---|-----------|---------------------|
| Test:U:120.1V I:0.1218A P:14.53W PF:0.9933 Lamp Flux:790x1 lm |           |                     |
| NAME: ASD-OLWS-22-MV-12N15CC-BZ 3000K                         | TYPE:N/A  | WEIGHT:N/A          |
| SPEC.:N/A   | DIM.: N/A | SERIAL No.:N/A      |
| MFR.: ASD Lighting corp                                       | SUR.:N/A  | Shielding Angle:N/A |

| 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  | .395                  | .224 | .071 | .381 | .217 | .069 | .356                            | .204 | .065 | .334 | .192 | .062 | .313 | .181 | .058 |   |
| 2.0  | .340                  | .186 | .057 | .328 | .180 | .056 | .305                            | .170 | .053 | .284 | .160 | .050 | .265 | .150 | .047 |   |
| 3.0  | .301                  | .160 | .048 | .290 | .155 | .047 | .270                            | .146 | .044 | .251 | .137 | .042 | .233 | .129 | .040 |   |
| 4.0  | .270                  | .140 | .041 | .260 | .136 | .040 | .242                            | .128 | .038 | .225 | .121 | .036 | .209 | .113 | .035 |   |
| 5.0  | .245                  | .125 | .036 | .236 | .121 | .035 | .219                            | .114 | .034 | .204 | .107 | .032 | .189 | .101 | .030 |   |
| 6.0  | .224                  | .112 | .032 | .216 | .109 | .031 | .201                            | .103 | .030 | .186 | .097 | .028 | .173 | .091 | .027 |   |
| 7.0  | .207                  | .102 | .029 | .199 | .099 | .028 | .185                            | .094 | .027 | .172 | .088 | .026 | .160 | .083 | .024 |   |
| 8.0  | .191                  | .093 | .026 | .185 | .091 | .026 | .172                            | .086 | .024 | .160 | .081 | .023 | .148 | .076 | .022 |   |
| 9.0  | .178                  | .086 | .024 | .172 | .084 | .024 | .160                            | .079 | .022 | .149 | .075 | .021 | .138 | .070 | .020 |   |
| 10.0 | .167                  | .080 | .022 | .161 | .078 | .022 | .150                            | .073 | .021 | .139 | .069 | .020 | .130 | .065 | .019 |   |

| 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  | .341                  | .341 | .341 | .291 | .291 | .291 | .199                                       | .199 | .199 | .114 | .114 | .114 | .037 | .037 | .037 |   |
| 1.0  | .338                  | .307 | .279 | .289 | .263 | .240 | .198                                       | .181 | .166 | .114 | .105 | .097 | .036 | .034 | .031 |   |
| 2.0  | .331                  | .284 | .245 | .284 | .245 | .212 | .194                                       | .169 | .148 | .112 | .098 | .087 | .036 | .032 | .028 |   |
| 3.0  | .324                  | .268 | .223 | .278 | .231 | .194 | .191                                       | .161 | .136 | .110 | .094 | .080 | .035 | .030 | .026 |   |
| 4.0  | .316                  | .256 | .209 | .271 | .221 | .182 | .187                                       | .154 | .128 | .108 | .090 | .076 | .035 | .029 | .025 |   |
| 5.0  | .308                  | .246 | .200 | .265 | .213 | .174 | .182                                       | .149 | .123 | .106 | .087 | .073 | .034 | .028 | .024 |   |
| 6.0  | .301                  | .238 | .193 | .259 | .206 | .168 | .178                                       | .144 | .119 | .104 | .085 | .071 | .033 | .028 | .023 |   |
| 7.0  | .294                  | .231 | .188 | .253 | .201 | .164 | .175                                       | .141 | .116 | .101 | .083 | .069 | .033 | .027 | .023 |   |
| 8.0  | .287                  | .226 | .184 | .247 | .196 | .160 | .171                                       | .138 | .114 | .099 | .081 | .068 | .032 | .027 | .022 |   |
| 9.0  | .281                  | .221 | .181 | .242 | .192 | .158 | .168                                       | .135 | .112 | .098 | .080 | .067 | .032 | .026 | .022 |   |
| 10.0 | .275                  | .217 | .178 | .237 | .188 | .156 | .164                                       | .133 | .111 | .096 | .078 | .066 | .031 | .026 | .022 |   |

C Range: 0 - 360DEG  
 C Interval: 22.5DEG  
 Test Speed: HIGH  
 Temperature:25.6DEG  
 Operators:Carl  
 Test Date:2022-05-30

γ Range: 0 - 180DEG  
 γ Interval: 1.0DEG  
 Test System:EVERFINE GO-R5000\_V2 SYSTEM V2.0.351  
 Humidity:39%  
 Test Distance:2.526m [K=1.0000]  
 Remarks:

UGR(Unified Glare Rating) Table

|   |                  |      |      |      |           |                |      |                     |      |      |
|---|------------------|------|------|------|-----------|----------------|------|---------------------|------|------|
| Test:U:120.1V I:0.1218A P:14.53W PF:0.9933 Lamp Flux:790x1 lm |                  |      |      |      |           |                |      |                     |      |      |
| NAME: ASD-OLWS-22-MV-12N15CC-BZ 3000K                         |                  |      |      |      | TYPE:N/A  |                |      | WEIGHT:N/A          |      |      |
| SPEC.:N/A   |                  |      |      |      | DIM.: N/A |                |      | SERIAL No.:N/A      |      |      |
| MFR.: ASD Lighting corp                                       |                  |      |      |      | SUR.:N/A  |                |      | Shielding Angle:N/A |      |      |
| 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   | 15.4             | 16.8 | 16.0 | 17.3 | 17.9      | 19.3           | 20.7 | 19.8                | 21.2 | 21.8 |
| 3H  | 16.6             | 17.9 | 17.2 | 18.4 | 19.1      | 22.1           | 23.4 | 22.7                | 23.9 | 24.6 |
| 4H  | 17.0             | 18.2 | 17.6 | 18.8 | 19.4      | 23.7           | 24.9 | 24.2                | 25.4 | 26.1 |
| 6H  | 17.2             | 18.3 | 17.8 | 18.9 | 19.6      | 25.4           | 26.5 | 26.0                | 27.1 | 27.8 |
| 8H  | 17.2             | 18.3 | 17.8 | 18.9 | 19.6      | 26.3           | 27.4 | 26.9                | 28.0 | 28.7 |
| 12H   | 17.1             | 18.2 | 17.8 | 18.8 | 19.5      | 27.4           | 28.5 | 28.0                | 29.1 | 29.8 |
| 4H 2H   | 17.0             | 18.2 | 17.6 | 18.8 | 19.5      | 19.7           | 20.9 | 20.3                | 21.5 | 22.2 |
| 3H  | 18.5             | 19.6 | 19.2 | 20.2 | 20.9      | 22.8           | 23.9 | 23.4                | 24.5 | 25.2 |
| 4H  | 19.1             | 20.1 | 19.8 | 20.7 | 21.5      | 24.6           | 25.5 | 25.2                | 26.2 | 26.9 |
| 6H  | 19.5             | 20.4 | 20.2 | 21.1 | 21.8      | 26.5           | 27.4 | 27.2                | 28.1 | 28.8 |
| 8H  | 19.6             | 20.4 | 20.3 | 21.1 | 21.9      | 27.6           | 28.4 | 28.3                | 29.1 | 29.9 |
| 12H   | 19.6             | 20.4 | 20.3 | 21.1 | 21.9      | 28.9           | 29.6 | 29.5                | 30.3 | 31.1 |
| 8H 4H   | 20.7             | 21.5 | 21.3 | 22.2 | 22.9      | 24.8           | 25.6 | 25.5                | 26.3 | 27.1 |
| 6H  | 21.5             | 22.2 | 22.2 | 22.9 | 23.7      | 27.1           | 27.8 | 27.8                | 28.5 | 29.3 |
| 8H  | 21.8             | 22.4 | 22.5 | 23.1 | 24.0      | 28.4           | 29.0 | 29.1                | 29.7 | 30.6 |
| 12H   | 22.0             | 22.5 | 22.7 | 23.3 | 24.2      | 29.9           | 30.5 | 30.7                | 31.2 | 32.1 |
| 12H 4H  | 21.2             | 21.9 | 21.9 | 22.6 | 23.4      | 24.8           | 25.6 | 25.5                | 26.3 | 27.1 |
| 6H  | 22.3             | 22.9 | 23.0 | 23.7 | 24.5      | 27.2           | 27.8 | 27.9                | 28.5 | 29.4 |
| 8H  | 22.9             | 23.4 | 23.6 | 24.1 | 25.0      | 28.6           | 29.1 | 29.3                | 29.9 | 30.8 |
| 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 889.4 lm Total Lamp Luminous Flux. (8log(F/F0) = -0.4)

C Range: 0 - 360DEG  
 C Interval: 22.5DEG  
 Test Speed: HIGH  
 Temperature:25.6DEG  
 Operators:Carl  
 Test Date:2022-05-30

γ Range: 0 - 180DEG  
 γ Interval: 1.0DEG  
 Test System:EVERFINE GO-R5000\_V2 SYSTEM V2.0.351  
 Humidity:39%  
 Test Distance:2.526m [K=1.0000]  
 Remarks:

## UTILIZATION FACTORS TABLE

|   |           |                     |
|---|-----------|---------------------|
| Test:U:120.1V I:0.1218A P:14.53W PF:0.9933 Lamp Flux:790x1 lm |           |                     |
| NAME: ASD-OLWS-22-MV-12N15CC-BZ 3000K                         | TYPE:N/A  | WEIGHT:N/A          |
| SPEC.:N/A   | DIM.: N/A | SERIAL No.:N/A      |
| MFR.: ASD Lighting corp                                       | SUR.:N/A  | Shielding Angle:N/A |

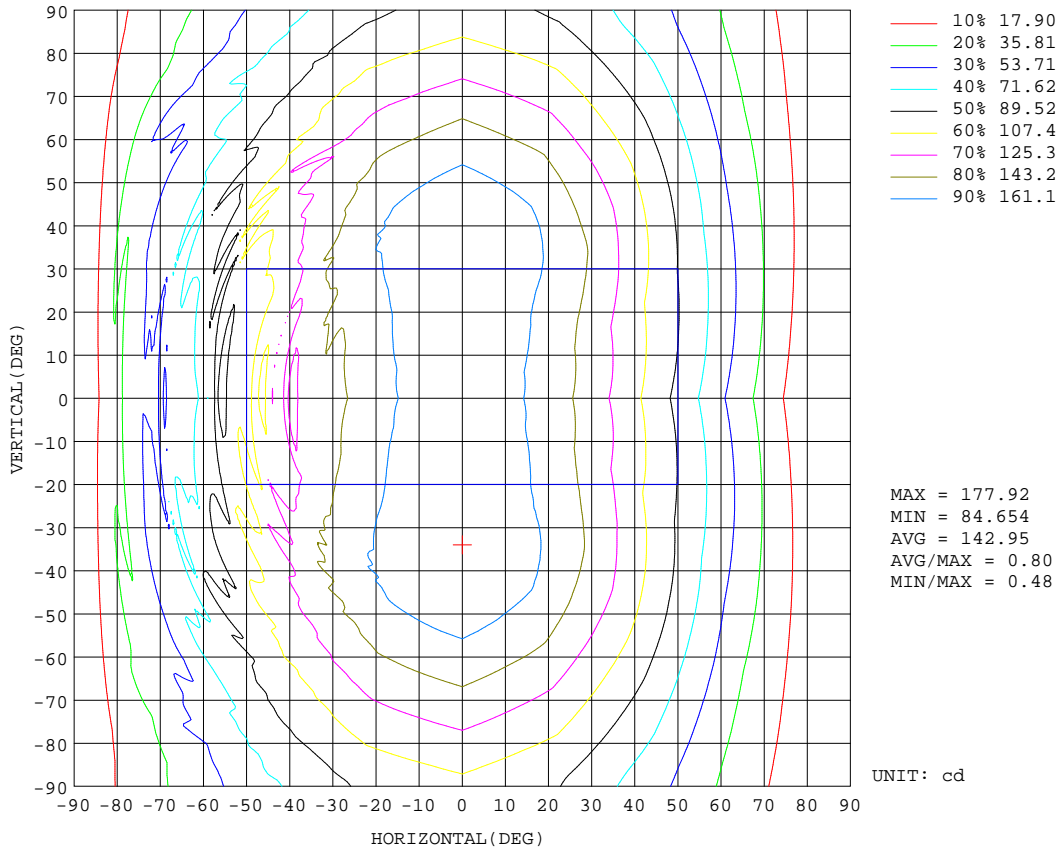
| REFLECTANCE                      |   |     |           |     |     |     |               |     |     |        |
|----------------------------------|---|-----|-----------|-----|-----|-----|---------------|-----|-----|--------|
| Ceiling                          | 0.8   | 0.8 | 0.8       | 0.7 | 0.7 | 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                         | 46  | 34  | 26        | 45  | 33  | 26  | 43            | 32  | 26  | 19     |
| 0.80                             | 55  | 42  | 34        | 54  | 41  | 33  | 51            | 40  | 33  | 25     |
| 1.00                             | 63  | 50  | 41        | 61  | 49  | 41  | 57            | 49  | 39  | 30     |
| 1.25                             | 70  | 57  | 48        | 68  | 56  | 47  | 63            | 53  | 46  | 36     |
| 1.50                             | 75  | 63  | 54        | 72  | 61  | 53  | 67            | 58  | 51  | 40     |
| 2.00                             | 83  | 71  | 63        | 79  | 69  | 61  | 73            | 65  | 58  | 46     |
| 2.50                             | 87  | 77  | 68        | 84  | 74  | 67  | 77            | 69  | 63  | 50     |
| 3.00                             | 91  | 81  | 74        | 87  | 79  | 71  | 80            | 73  | 67  | 54     |
| 4.00                             | 96  | 88  | 81        | 92  | 84  | 78  | 84            | 78  | 73  | 58     |
| 5.00                             | 99  | 92  | 86        | 95  | 88  | 83  | 87            | 82  | 77  | 62     |
| ROOM INDEX                       | UF(total)   |     |           |     |     |     |               |     |     | Direct |
| According to DIN EN 13032-2 2004 |   |     | Suspended |     |     |     | SHRNOM = 1.25 |     |     |        |

C Range: 0 - 360DEG  
 C Interval: 22.5DEG  
 Test Speed: HIGH  
 Temperature:25.6DEG  
 Operators:Carl  
 Test Date:2022-05-30

$\gamma$  Range: 0 - 180DEG  
 $\gamma$  Interval: 1.0DEG  
 Test System:EVERFINE GO-R5000\_V2 SYSTEM V2.0.351  
 Humidity:39%  
 Test Distance:2.526m [K=1.0000]  
 Remarks:

ISOCANDELA DIAGRAM

|   |           |                     |
|---|-----------|---------------------|
| Test:U:120.1V I:0.1218A P:14.53W PF:0.9933 Lamp Flux:790x1 lm |           |                     |
| NAME: ASD-OLWS-22-MV-12N15CC-BZ 3000K                         | TYPE:N/A  | WEIGHT:N/A          |
| SPEC.:N/A   | DIM.: N/A | SERIAL No.:N/A      |
| MFR.: ASD Lighting corp                                       | SUR.:N/A  | Shielding Angle:N/A |



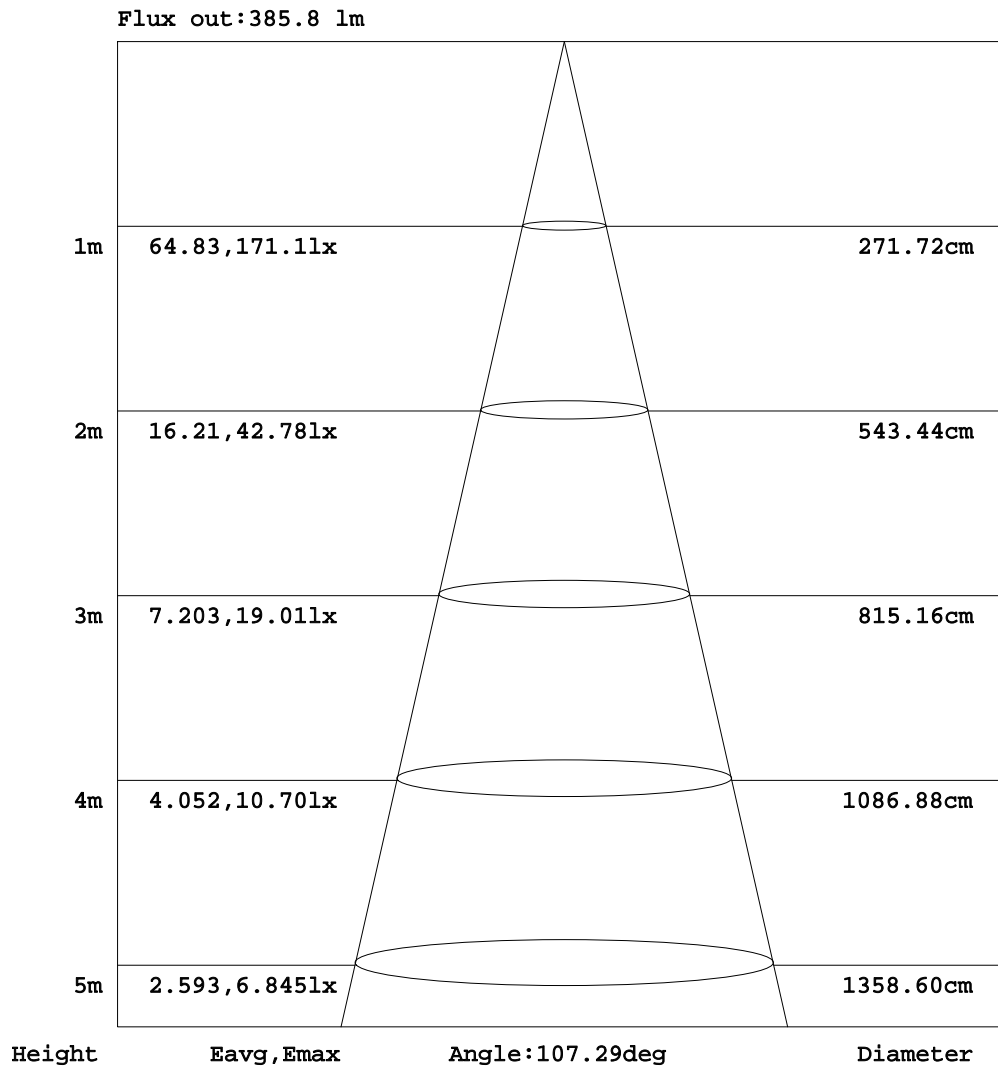
C Range: 0 - 360DEG  
 C Interval: 22.5DEG  
 Test Speed: HIGH  
 Temperature:25.6DEG  
 Operators:Carl  
 Test Date:2022-05-30

γ Range: 0 - 180DEG  
 γ Interval: 1.0DEG  
 Test System:EVERFINE GO-R5000\_V2 SYSTEM V2.0.351  
 Humidity:39%  
 Test Distance:2.526m [K=1.0000]  
 Remarks:



AAI Figure

|   |           |                     |
|---|-----------|---------------------|
| Test:U:120.1V I:0.1218A P:14.53W PF:0.9933 Lamp Flux:790x1 lm |           |                     |
| NAME: ASD-OLWS-22-MV-12N15CC-BZ 3000K                         | TYPE:N/A  | WEIGHT:N/A          |
| SPEC.:N/A   | DIM.: N/A | SERIAL No.:N/A      |
| MFR.: ASD Lighting corp                                       | SUR.:N/A  | Shielding Angle:N/A |



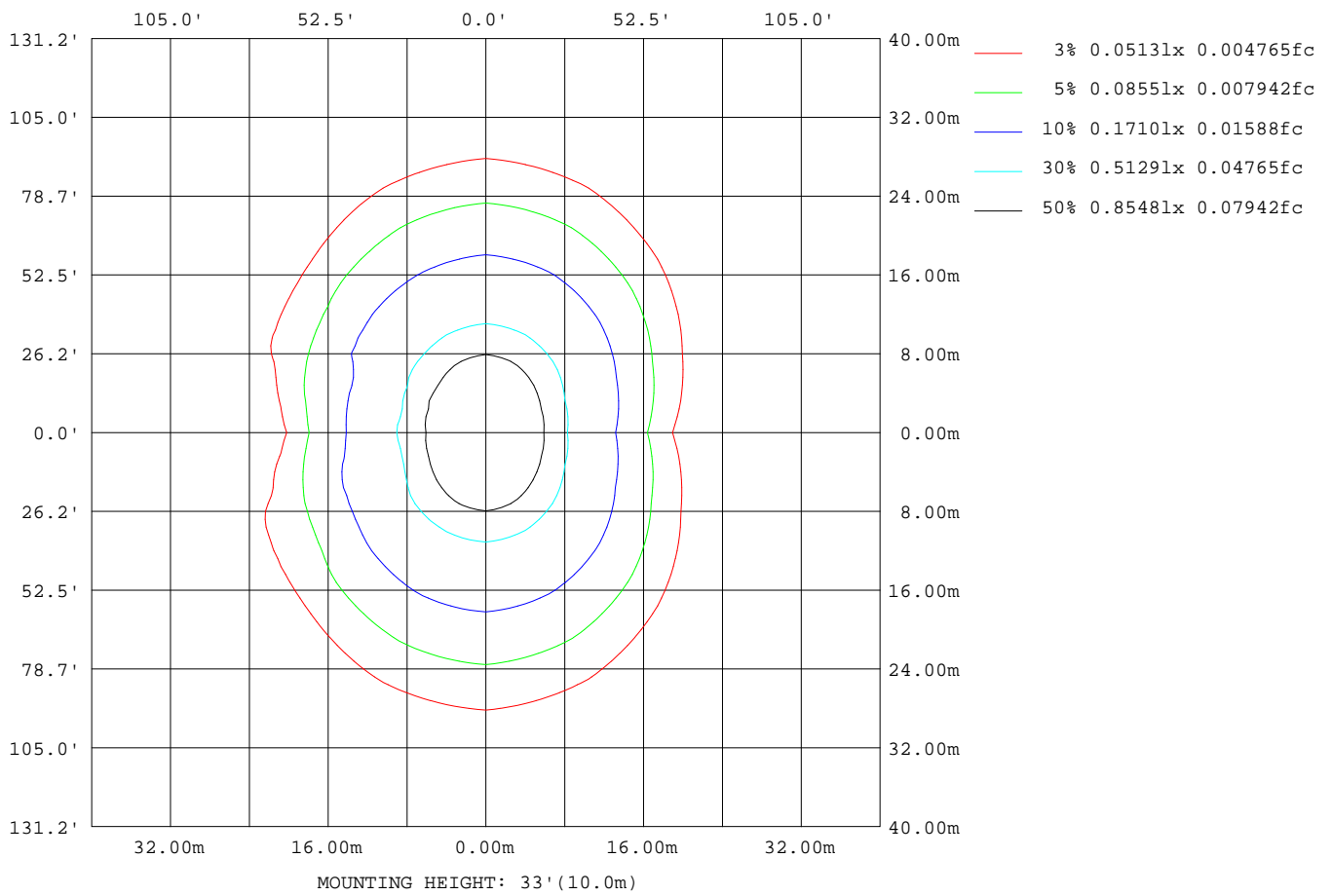
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG  
 C Interval: 22.5DEG  
 Test Speed: HIGH  
 Temperature:25.6DEG  
 Operators:Carl  
 Test Date:2022-05-30

γ Range: 0 - 180DEG  
 γ Interval: 1.0DEG  
 Test System:EVERFINE GO-R5000\_V2 SYSTEM V2.0.351  
 Humidity:39%  
 Test Distance:2.526m [K=1.0000]  
 Remarks:

ISOLUX DIAGRAM

|   |           |                     |
|---|-----------|---------------------|
| Test:U:120.1V I:0.1218A P:14.53W PF:0.9933 Lamp Flux:790x1 lm |           |                     |
| NAME: ASD-OLWS-22-MV-12N15CC-BZ 3000K                         | TYPE:N/A  | WEIGHT:N/A          |
| SPEC.:N/A   | DIM.: N/A | SERIAL No.:N/A      |
| MFR.: ASD Lighting corp                                       | SUR.:N/A  | Shielding Angle:N/A |



C Range: 0 - 360DEG  
 C Interval: 22.5DEG  
 Test Speed: HIGH  
 Temperature:25.6DEG  
 Operators:Carl  
 Test Date:2022-05-30

γ Range: 0 - 180DEG  
 γ Interval: 1.0DEG  
 Test System:EVERFINE GO-R5000\_V2 SYSTEM V2.0.351  
 Humidity:39%  
 Test Distance:2.526m [K=1.0000]  
 Remarks:

## LED Avg.L Report

|   |           |                     |
|---|-----------|---------------------|
| Test:U:120.1V I:0.1218A P:14.53W PF:0.9933 Lamp Flux:790x1 lm |           |                     |
| NAME: ASD-OLWS-22-MV-12N15CC-BZ 3000K                         | TYPE:N/A  | WEIGHT:N/A          |
| SPEC.:N/A   | DIM.: N/A | SERIAL No.:N/A      |
| MFR.: ASD Lighting corp                                       | SUR.:N/A  | Shielding Angle:N/A |

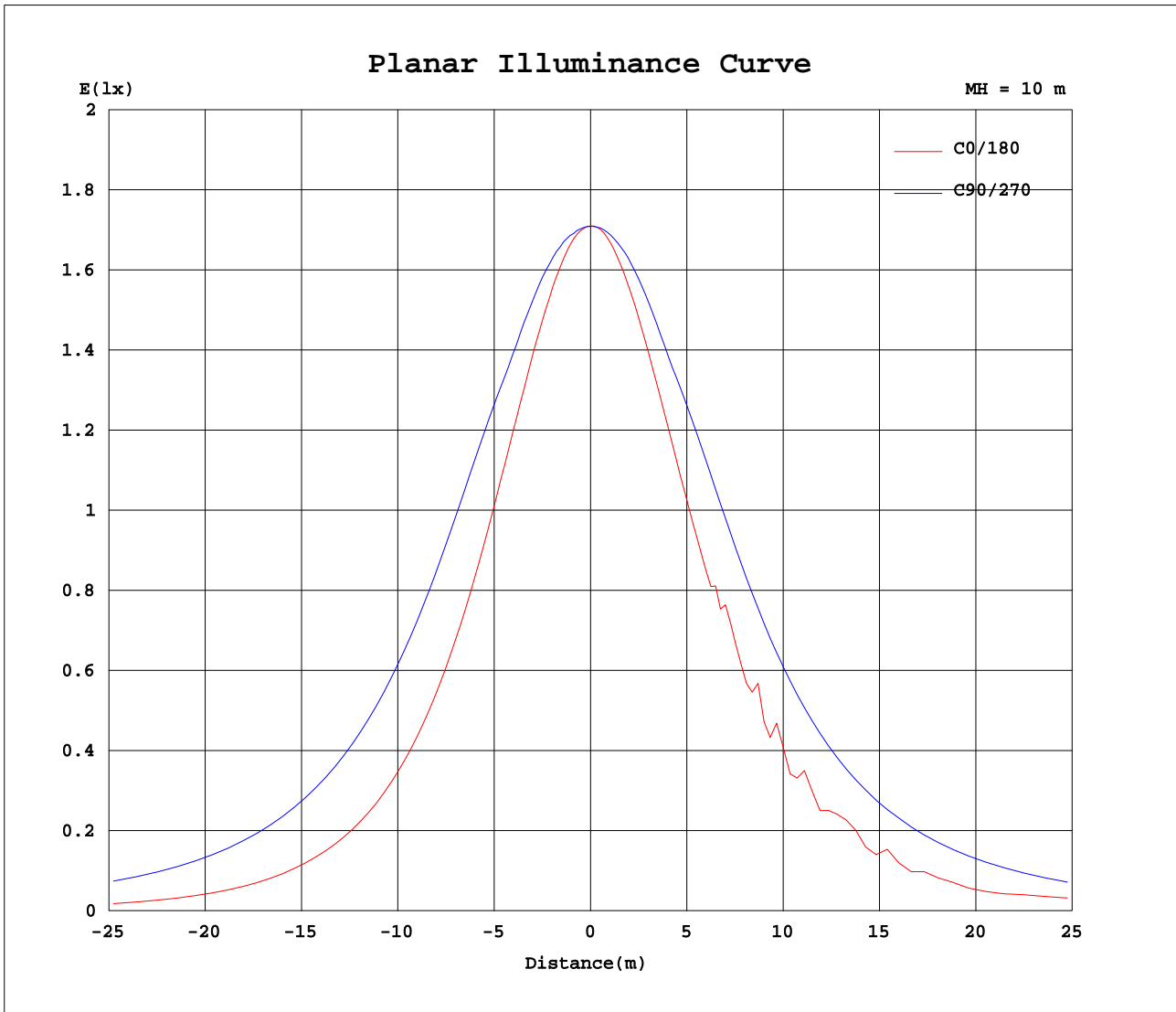
| AvgL           | cd/m2 |
|----------------|-------|
| L_0~180(65)av  | 3154  |
| L_0~180(75)av  | 3332  |
| L_0~180(85)av  | 2410  |
| L_90~270(65)av | 9230  |
| L_90~270(75)av | 13159 |
| L_90~270(85)av | 33432 |
| L_45(65)av     | 6844  |
| L_45(75)av     | 8992  |
| L_45(85)av     | 21304 |

Standard: GB/T 29293-2012

C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: HIGH  
Temperature:25.6DEG  
Operators:Carl  
Test Date:2022-05-30

$\gamma$  Range: 0 - 180DEG  
 $\gamma$  Interval: 1.0DEG  
Test System:EVERFINE GO-R5000\_V2 SYSTEM V2.0.351  
Humidity:39%  
Test Distance:2.526m [K=1.0000]  
Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: HIGH  
Temperature: 25.6DEG  
Operators: Carl  
Test Date: 2022-05-30

$\gamma$  Range: 0 - 180DEG  
 $\gamma$  Interval: 1.0DEG  
Test System: EVERFINE GO-R5000\_V2 SYSTEM V2.0.351  
Humidity: 39%  
Test Distance: 2.526m [K=1.0000]  
Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

|   |           |                     |
|---|-----------|---------------------|
| Test:U:120.1V I:0.1218A P:14.53W PF:0.9933 Lamp Flux:790x1 lm |           |                     |
| NAME: ASD-OLWS-22-MV-12N15CC-BZ 3000K                         | TYPE:N/A  | WEIGHT:N/A          |
| SPEC.:N/A   | DIM.: N/A | SERIAL No.:N/A      |
| MFR.: ASD Lighting corp                                       | SUR.:N/A  | Shielding Angle:N/A |

Table--1

UNIT: cd

| C( DEG)<br>γ (DEG) | 0    | 22.5 | 45   | 67.5 | 90   | 112.5 | 135  | 157.5 | 180  | 202.5 | 225  | 247.5 | 270  | 292.5 | 315  | 337.5 |  |  |  |
|--------------------|------|------|------|------|------|-------|------|-------|------|-------|------|-------|------|-------|------|-------|--|--|--|
| 0                  | 171  | 171  | 171  | 171  | 171  | 171   | 171  | 171   | 171  | 171   | 171  | 171   | 171  | 171   | 171  | 171   |  |  |  |
| 5                  | 170  | 170  | 170  | 171  | 171  | 171   | 171  | 170   | 170  | 170   | 170  | 171   | 171  | 171   | 170  | 169   |  |  |  |
| 10                 | 166  | 167  | 169  | 171  | 172  | 172   | 170  | 168   | 166  | 167   | 169  | 171   | 172  | 171   | 169  | 166   |  |  |  |
| 15                 | 160  | 162  | 166  | 171  | 173  | 172   | 168  | 163   | 161  | 163   | 167  | 171   | 173  | 171   | 166  | 162   |  |  |  |
| 20                 | 153  | 156  | 163  | 170  | 174  | 172   | 165  | 158   | 154  | 157   | 164  | 170   | 173  | 170   | 163  | 156   |  |  |  |
| 25                 | 144  | 149  | 159  | 169  | 176  | 171   | 162  | 152   | 146  | 150   | 159  | 170   | 175  | 170   | 159  | 149   |  |  |  |
| 30                 | 134  | 140  | 154  | 170  | 178  | 173   | 158  | 144   | 137  | 142   | 155  | 171   | 178  | 171   | 155  | 140   |  |  |  |
| 35                 | 123  | 131  | 150  | 170  | 179  | 173   | 155  | 136   | 139  | 141   | 151  | 170   | 178  | 171   | 152  | 131   |  |  |  |
| 40                 | 111  | 121  | 146  | 167  | 178  | 170   | 151  | 127   | 122  | 127   | 152  | 167   | 176  | 168   | 147  | 121   |  |  |  |
| 45                 | 98.3 | 110  | 140  | 163  | 174  | 166   | 146  | 118   | 116  | 116   | 143  | 163   | 172  | 163   | 141  | 111   |  |  |  |
| 50                 | 84.7 | 99.7 | 132  | 157  | 169  | 160   | 139  | 109   | 94.1 | 103   | 136  | 156   | 167  | 157   | 133  | 101   |  |  |  |
| 55                 | 70.9 | 89.4 | 123  | 150  | 162  | 153   | 135  | 104   | 84.4 | 93.6  | 125  | 149   | 160  | 149   | 124  | 91.2  |  |  |  |
| 60                 | 56.4 | 78.7 | 114  | 141  | 155  | 145   | 121  | 96.7  | 78.2 | 108   | 122  | 140   | 152  | 140   | 114  | 80.3  |  |  |  |
| 65                 | 42.5 | 67.3 | 103  | 132  | 147  | 136   | 114  | 87.6  | 56.4 | 80.1  | 108  | 130   | 143  | 130   | 104  | 68.9  |  |  |  |
| 70                 | 29.0 | 55.3 | 93.1 | 123  | 138  | 127   | 103  | 82.1  | 64.5 | 80.5  | 97.5 | 121   | 133  | 121   | 93.3 | 57.4  |  |  |  |
| 75                 | 16.6 | 44.2 | 83.3 | 114  | 129  | 119   | 92.1 | 69.5  | 47.5 | 65.3  | 86.7 | 111   | 124  | 112   | 83.3 | 46.3  |  |  |  |
| 80                 | 6.77 | 34.3 | 74.2 | 106  | 120  | 110   | 84.5 | 56.5  | 20.9 | 62.4  | 79.6 | 102   | 114  | 103   | 74.1 | 36.4  |  |  |  |
| 85                 | 0.27 | 26.5 | 66.0 | 96.9 | 111  | 101   | 75.3 | 41.8  | 15.3 | 37.2  | 68.7 | 93.0  | 105  | 93.8  | 65.7 | 28.6  |  |  |  |
| 90                 | 0.06 | 21.2 | 59.2 | 89.9 | 104  | 93.3  | 68.0 | 36.8  | 4.01 | 28.9  | 61.4 | 85.8  | 97.6 | 86.8  | 59.3 | 23.3  |  |  |  |
| 95                 | 0.07 | 17.5 | 54.5 | 84.5 | 98.2 | 88.0  | 63.3 | 31.3  | 2.73 | 24.6  | 55.7 | 80.3  | 92.1 | 81.3  | 54.4 | 19.3  |  |  |  |
| 100                | 0.08 | 14.3 | 49.4 | 78.7 | 91.8 | 81.8  | 58.0 | 26.9  | 4.27 | 21.1  | 52.2 | 73.9  | 85.4 | 75.1  | 49.0 | 15.7  |  |  |  |
| 105                | 0.08 | 11.4 | 44.1 | 72.1 | 84.7 | 75.2  | 52.4 | 21.7  | 5.45 | 17.3  | 45.8 | 67.2  | 78.3 | 68.4  | 43.4 | 12.4  |  |  |  |
| 110                | 0.09 | 9.05 | 38.5 | 65.1 | 77.0 | 68.0  | 46.5 | 18.5  | 6.06 | 15.1  | 38.9 | 60.2  | 70.5 | 61.2  | 37.6 | 9.66  |  |  |  |
| 115                | 0.10 | 6.92 | 32.9 | 57.2 | 68.8 | 60.1  | 39.6 | 15.6  | 6.42 | 11.6  | 33.0 | 52.5  | 62.3 | 53.6  | 31.7 | 7.28  |  |  |  |
| 120                | 0.11 | 4.82 | 27.5 | 49.4 | 59.8 | 51.9  | 33.2 | 11.8  | 6.38 | 8.81  | 27.1 | 44.8  | 53.6 | 45.6  | 26.1 | 5.03  |  |  |  |
| 125                | 0.13 | 2.78 | 22.5 | 41.6 | 50.8 | 43.8  | 27.3 | 8.79  | 5.73 | 6.12  | 21.6 | 37.0  | 44.9 | 37.9  | 21.0 | 2.85  |  |  |  |
| 130                | 0.16 | 0.91 | 17.7 | 34.2 | 42.0 | 36.1  | 22.2 | 5.95  | 4.87 | 3.83  | 16.7 | 29.8  | 36.4 | 30.5  | 16.1 | 0.84  |  |  |  |
| 135                | 0.19 | 0.25 | 13.2 | 27.1 | 33.8 | 28.7  | 16.8 | 3.25  | 3.66 | 3.24  | 11.9 | 22.9  | 28.5 | 23.7  | 11.6 | 0.21  |  |  |  |
| 140                | 0.24 | 0.26 | 8.73 | 20.4 | 26.0 | 22.1  | 11.6 | 2.44  | 3.34 | 2.75  | 7.12 | 16.4  | 21.1 | 17.4  | 7.51 | 0.20  |  |  |  |
| 145                | 0.29 | 0.31 | 4.47 | 14.1 | 18.5 | 15.2  | 6.93 | 2.07  | 2.61 | 2.15  | 2.67 | 9.93  | 14.1 | 11.6  | 3.96 | 0.18  |  |  |  |
| 150                | 0.35 | 0.35 | 0.82 | 8.01 | 11.5 | 8.99  | 2.45 | 1.83  | 2.06 | 1.71  | 1.31 | 3.96  | 7.54 | 6.30  | 0.88 | 0.20  |  |  |  |
| 155                | 0.39 | 0.39 | 0.44 | 2.42 | 5.00 | 3.25  | 0.92 | 1.35  | 1.54 | 1.35  | 1.02 | 0.71  | 1.78 | 1.42  | 0.32 | 0.25  |  |  |  |
| 160                | 0.44 | 0.43 | 0.47 | 0.50 | 0.62 | 0.86  | 0.85 | 1.08  | 1.08 | 0.99  | 0.84 | 0.76  | 0.69 | 0.47  | 0.35 | 0.30  |  |  |  |
| 165                | 0.49 | 0.44 | 0.50 | 0.54 | 0.63 | 0.88  | 0.89 | 0.89  | 0.76 | 0.76  | 0.76 | 0.74  | 0.64 | 0.50  | 0.40 | 0.34  |  |  |  |
| 170                | 0.38 | 0.39 | 0.45 | 0.55 | 0.63 | 0.64  | 0.90 | 0.84  | 0.71 | 0.71  | 0.71 | 0.75  | 0.49 | 0.49  | 0.45 | 0.33  |  |  |  |
| 175                | 0.39 | 0.39 | 0.44 | 0.52 | 0.57 | 0.45  | 0.51 | 0.72  | 0.65 | 0.66  | 0.60 | 0.43  | 0.37 | 0.47  | 0.46 | 0.39  |  |  |  |
| 180                | 0.77 | 0.61 | 0.59 | 0.44 | 0.43 | 0.45  | 0.51 | 0.57  | 0.59 | 0.58  | 0.58 | 0.54  | 0.47 | 0.44  | 0.43 | 0.50  |  |  |  |

C Range: 0 - 360DEG  
 C Interval: 22.5DEG  
 Test Speed: HIGH  
 Temperature:25.6DEG  
 Operators:Carl  
 Test Date:2022-05-30

γ Range: 0 - 180DEG  
 γ Interval: 1.0DEG  
 Test System:EVERFINE GO-R5000\_V2 SYSTEM V2.0.351  
 Humidity:39%  
 Test Distance:2.526m [K=1.0000]  
 Remarks: