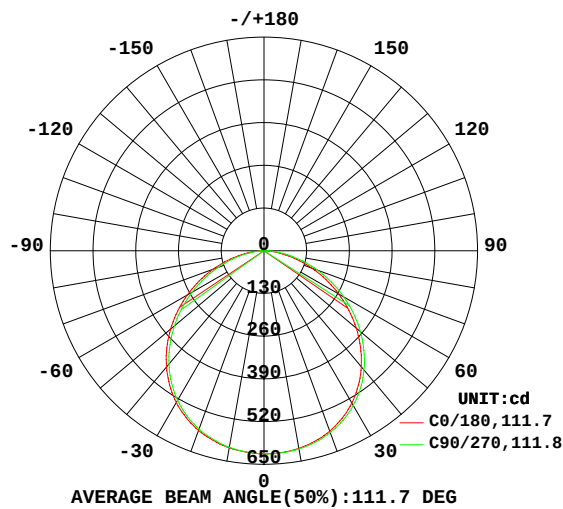


## LUMINAIRE PHOTOMETRIC TEST REPORT

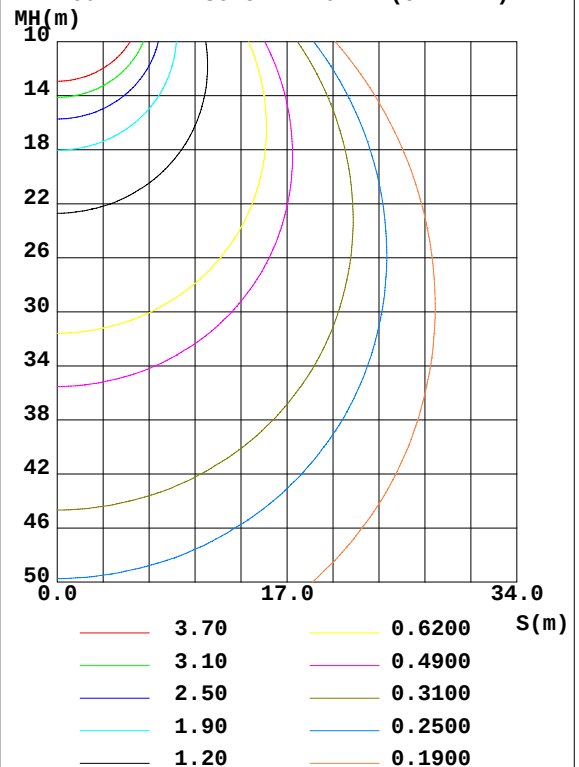
|                                                                   |           |                     |
|-------------------------------------------------------------------|-----------|---------------------|
| Test:U:120.0V I:0.1848A P:22.09W PF:0.9960 Lamp Flux:1764.98x1 lm |           |                     |
| NAME: inseparable ssl luminaire                                   | TYPE:N/A  | WEIGHT:N/A          |
| SPEC.:N/A                                                         | DIM.: N/A | SERIAL No.:N/A      |
| MFR.: Libo                                                        | SUR.:N/A  | Shielding Angle:N/A |

| DATA OF LAMP     |                 | PHOTOMETRIC DATA Eff: 79.88 lm/W |        |                    |           |
|------------------|-----------------|----------------------------------|--------|--------------------|-----------|
| MODEL            | RSZ161214507-10 | I <sub>max</sub> (cd)            | 618.5  | S/MH(C0/180)       | 1.28      |
| NOMINAL POWER(W) | 22              | LOR(%)                           | 100.0  | S/MH(C90/270)      | 1.30      |
| RATED VOLTAGE(V) | 120             | TOTAL FLUX(lm)                   | 1765.0 | η UP, DN(C0-180)   | 0.1, 48.8 |
| NOMINAL FLUX(lm) | 1764.98         | CIE CLASS                        | DIRECT | η UP, DN(C180-360) | 0.0, 51.1 |
| LAMPS INSIDE     | 1               | η up(%)                          | 0.1    | CIBSE SHR NOM      | 1.25      |
| TEST VOLTAGE(V)  | 120             | η down(%)                        | 99.9   | CIBSE SHR MAX      | 1.35      |

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



C0 PLANE ISOLUX DIAGRAM (UNIT:lx)



C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: 10.0deg/s  
Temperature:25.3DEG  
Operators:ben  
Test Date:2016-12-16

γ Range: 0 - 180DEG  
γ Interval: 1.0DEG  
Test System:EVERFINE G0-R5000\_V2 SYSTEM V2.0.351  
Humidity:43%  
Test Distance:2.437m [K=1.0000]  
Remarks:

## ZONAL FLUX DIAGRAM

### ZONAL FLUX DIAGRAM:

| γ   | C0                                                  | C45    | C90    | C135   | C180   | C225   | C270   | C315   | γ       | Φ zone  | Φ total | %lum, lamp |
|-----|-----------------------------------------------------|--------|--------|--------|--------|--------|--------|--------|---------|---------|---------|------------|
| 10  | 609.1                                               | 607.2  | 606.9  | 608.3  | 611.0  | 611.9  | 612.3  | 611.2  | 0- 10   | 58.60   | 58.60   | 3.32,3.32  |
| 20  | 582.1                                               | 578.6  | 577.6  | 579.4  | 584.6  | 587.8  | 588.8  | 586.8  | 10- 20  | 169.2   | 227.7   | 12.9,12.9  |
| 30  | 533.6                                               | 528.0  | 525.5  | 527.2  | 535.0  | 540.4  | 543.3  | 541.1  | 20- 30  | 258.9   | 486.6   | 27.6,27.6  |
| 40  | 462.0                                               | 454.7  | 449.9  | 451.2  | 460.7  | 468.7  | 473.3  | 471.7  | 30- 40  | 313.1   | 799.7   | 45.3,45.3  |
| 50  | 371.1                                               | 362.1  | 355.9  | 356.1  | 366.9  | 376.1  | 382.9  | 382.2  | 40- 50  | 321.6   | 1121    | 63.5,63.5  |
| 60  | 269.4                                               | 260.2  | 252.6  | 251.3  | 262.1  | 271.9  | 279.7  | 280.2  | 50- 60  | 284.3   | 1406    | 79.6,79.6  |
| 70  | 165.5                                               | 156.7  | 148.6  | 146.0  | 155.4  | 164.8  | 173.2  | 175.0  | 60- 70  | 210.7   | 1616    | 91.6,91.6  |
| 80  | 68.87                                               | 62.32  | 55.25  | 52.00  | 58.13  | 66.06  | 73.91  | 76.15  | 70- 80  | 117.0   | 1733    | 98.2,98.2  |
| 90  | 3.020                                               | 0.1890 | 0.1130 | 0.1097 | 0.0644 | 0.0828 | 2.148  | 3.242  | 80- 90  | 29.79   | 1763    | 99.9,99.9  |
| 100 | 0.1723                                              | 0.1669 | 0.1689 | 0.1675 | 0.0917 | 0.0880 | 0.0826 | 0.0909 | 90-100  | 0.1800  | 1763    | 99.9,99.9  |
| 110 | 0.1811                                              | 0.1873 | 0.1999 | 0.1980 | 0.1336 | 0.1301 | 0.1241 | 0.1192 | 100-110 | 0.1540  | 1764    | 99.9,99.9  |
| 120 | 0.2036                                              | 0.2038 | 0.2146 | 0.2142 | 0.1932 | 0.1783 | 0.1760 | 0.1670 | 110-120 | 0.1731  | 1764    | 99.9,99.9  |
| 130 | 0.2676                                              | 0.2693 | 0.2860 | 0.2786 | 0.2556 | 0.2422 | 0.2326 | 0.2270 | 120-130 | 0.1989  | 1764    | 99.9,99.9  |
| 140 | 0.3842                                              | 0.4138 | 0.4216 | 0.4177 | 0.3289 | 0.3206 | 0.3114 | 0.3091 | 130-140 | 0.2364  | 1764    | 100,100    |
| 150 | 0.5705                                              | 0.6255 | 0.6387 | 0.6311 | 0.3733 | 0.3723 | 0.3854 | 0.3681 | 140-150 | 0.2693  | 1764    | 100,100    |
| 160 | 0.7277                                              | 0.7391 | 0.7428 | 0.7642 | 0.4503 | 0.4471 | 0.4509 | 0.4199 | 150-160 | 0.2540  | 1765    | 100,100    |
| 170 | 0.6860                                              | 0.6740 | 0.6839 | 0.6980 | 0.4967 | 0.4739 | 0.4774 | 0.4648 | 160-170 | 0.1682  | 1765    | 100,100    |
| 180 | 0.6073                                              | 0.5763 | 0.5764 | 0.5941 | 0.6124 | 0.5878 | 0.5603 | 0.5789 | 170-180 | 0.0555  | 1765    | 100,100    |
| DEG | LUMINOUS INTENSITY:cd Less than 25% Percent = 8.7 % |        |        |        |        |        |        |        |         | UNIT:lm |         |            |

Conical surface Flux(90deg): 962.48 lm

%lum = 54.5%

%lamp = 54.5%

Conical surface Flux(120deg): 1405.7 lm

%lum = 79.6%

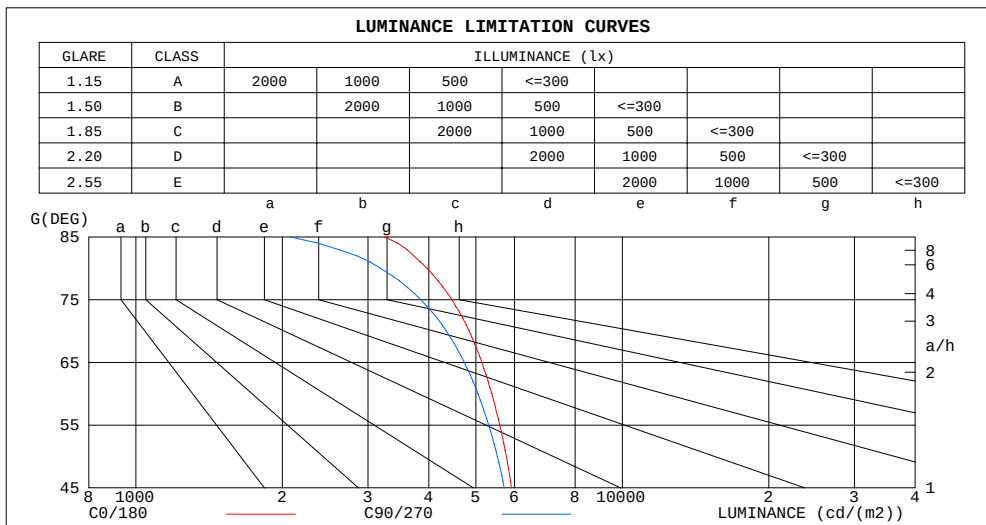
%lamp = 79.6%

C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: 10.0deg/s  
Temperature:25.3DEG  
Operators:ben  
Test Date:2016-12-16

γ Range: 0 - 180DEG  
γ Interval: 1.0DEG  
Test System:EVERFINE G0-R5000\_V2 SYSTEM V2.0.351  
Humidity:43%  
Test Distance:2.437m [K=1.0000]  
Remarks:

## LUMINANCE LIMITATION CURVES

|                                                                   |           |                     |
|-------------------------------------------------------------------|-----------|---------------------|
| Test:U:120.0V I:0.1848A P:22.09W PF:0.9960 Lamp Flux:1764.98x1 lm |           |                     |
| NAME: inseparable ssl luminaire                                   | TYPE:N/A  | WEIGHT:N/A          |
| SPEC.:N/A                                                         | DIM.: N/A | SERIAL No.:N/A      |
| MFR.: Libo                                                        | SUR.:N/A  | Shielding Angle:N/A |



| LUMINANCE cd/(m2) |        |         |
|-------------------|--------|---------|
| G(DEG)            | C0/180 | C90/270 |
| 85                | 3241   | 2072    |
| 80                | 3969   | 3181    |
| 75                | 4466   | 3850    |
| 70                | 4843   | 4344    |
| 65                | 5146   | 4735    |
| 60                | 5391   | 5051    |
| 55                | 5596   | 5312    |
| 50                | 5777   | 5535    |
| 45                | 5917   | 5719    |

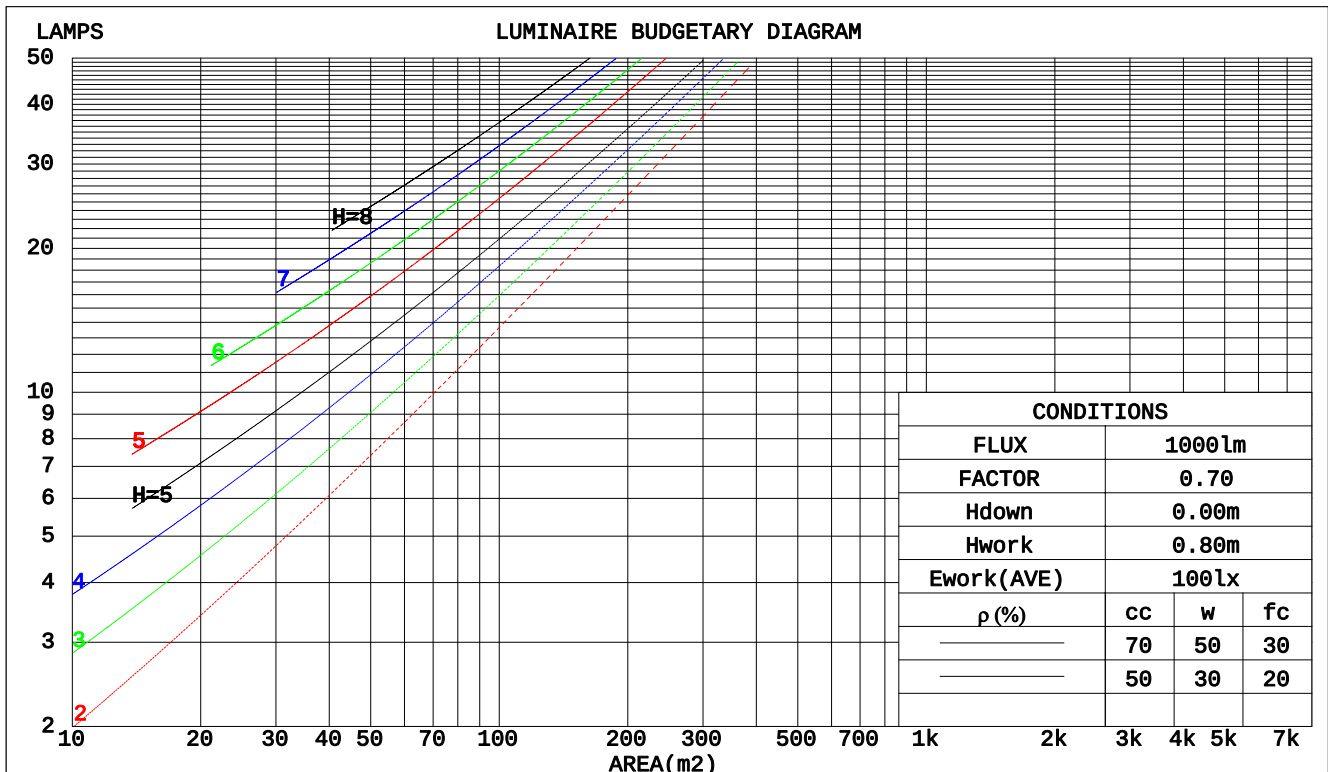
C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: 10.0deg/s  
Temperature:25.3DEG  
Operators:ben  
Test Date:2016-12-16

γ Range: 0 - 180DEG  
γ Interval: 1.0DEG  
Test System:EVERFINE G0-R5000\_V2 SYSTEM V2.0.351  
Humidity:43%  
Test Distance:2.437m [K=1.0000]  
Remarks:

**CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM**

|                                                                   |           |                     |
|-------------------------------------------------------------------|-----------|---------------------|
| Test:U:120.0V I:0.1848A P:22.09W PF:0.9960 Lamp Flux:1764.98x1 lm |           |                     |
| NAME: inseparable ssl luminaire                                   | TYPE:N/A  | WEIGHT:N/A          |
| SPEC.:N/A                                                         | DIM.: N/A | SERIAL No.:N/A      |
| MFR.: Libo                                                        | SUR.:N/A  | Shielding Angle:N/A |

| $\rho_{CC}$ | 80%                   |      |      | 70%  |      |      | 50%                             |      |      | 30%  |      |      | 10%  |      |      | 0   |
|-------------|-----------------------|------|------|------|------|------|---------------------------------|------|------|------|------|------|------|------|------|-----|
| $\rho_W$    | 50%                   | 30%  | 10%  | 50%  | 30%  | 10%  | 50%                             | 30%  | 10%  | 50%  | 30%  | 10%  | 50%  | 30%  | 10%  | 0   |
| $\rho_{fc}$ | 20%                   |      |      | 20%  |      |      | 20%                             |      |      | 20%  |      |      | 20%  |      |      | 0   |
| RCR         | RCR:Room Cavity Ratio |      |      |      |      |      | Coefficients of Utilization(CU) |      |      |      |      |      |      |      |      |     |
| 0.0         | 1.19                  | 1.19 | 1.19 | 1.16 | 1.16 | 1.16 | 1.11                            | 1.11 | 1.11 | 1.06 | 1.06 | 1.06 | 1.02 | 1.02 | 1.02 | .00 |
| 1.0         | 1.04                  | .00  | .96  | 1.02 | .98  | .94  | .98                             | .94  | .91  | .94  | .91  | .89  | .90  | .88  | .86  | .84 |
| 2.0         | .91                   | .84  | .78  | .89  | .83  | .77  | .85                             | .80  | .76  | .82  | .78  | .74  | .79  | .75  | .72  | .70 |
| 3.0         | .80                   | .72  | .65  | .78  | .71  | .65  | .75                             | .69  | .63  | .72  | .67  | .62  | .70  | .65  | .61  | .59 |
| 4.0         | .71                   | .62  | .55  | .69  | .61  | .55  | .67                             | .60  | .54  | .64  | .58  | .53  | .62  | .57  | .53  | .50 |
| 5.0         | .63                   | .54  | .48  | .62  | .54  | .47  | .60                             | .52  | .47  | .58  | .51  | .46  | .56  | .50  | .46  | .44 |
| 6.0         | .57                   | .48  | .41  | .56  | .47  | .41  | .54                             | .46  | .41  | .52  | .46  | .40  | .51  | .45  | .40  | .38 |
| 7.0         | .52                   | .43  | .37  | .51  | .42  | .36  | .49                             | .42  | .36  | .48  | .41  | .36  | .46  | .40  | .36  | .34 |
| 8.0         | .47                   | .38  | .33  | .46  | .38  | .33  | .45                             | .38  | .32  | .44  | .37  | .32  | .43  | .36  | .32  | .30 |
| 9.0         | .43                   | .35  | .29  | .43  | .35  | .29  | .41                             | .34  | .29  | .40  | .34  | .29  | .39  | .33  | .29  | .27 |
| 10.0        | .40                   | .32  | .27  | .39  | .32  | .27  | .38                             | .31  | .26  | .37  | .31  | .26  | .36  | .30  | .26  | .24 |



C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: 10.0deg/s  
Temperature:25.3DEG  
Operators:ben  
Test Date:2016-12-16

$\gamma$  Range: 0 - 180DEG  
 $\gamma$  Interval: 1.0DEG  
Test System:EVERFINE G0-R5000\_V2 SYSTEM V2.0.351  
Humidity:43%  
Test Distance:2.437m [K=1.0000]  
Remarks:

## WEC AND CCEC

|                                                                   |  |  |  |  |           |  |  |                     |  |
|-------------------------------------------------------------------|--|--|--|--|-----------|--|--|---------------------|--|
| Test:U:120.0V I:0.1848A P:22.09W PF:0.9960 Lamp Flux:1764.98x1 lm |  |  |  |  |           |  |  |                     |  |
| NAME: inseparable ssl luminaire                                   |  |  |  |  | TYPE:N/A  |  |  | WEIGHT:N/A          |  |
| SPEC.:N/A                                                         |  |  |  |  | DIM.: N/A |  |  | SERIAL No.:N/A      |  |
| MFR.: Libo                                                        |  |  |  |  | SUR.:N/A  |  |  | Shielding Angle:N/A |  |

| $\rho_{cc}$ | 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         | .305                  | .173 | .055 | .298 | .170 | .054 | .284                            | .163 | .052 | .272 | .157 | .050 | .261 | .151 | .049 |   |
| 2.0         | .288                  | .158 | .048 | .282 | .155 | .048 | .270                            | .150 | .047 | .259 | .145 | .046 | .249 | .141 | .044 |   |
| 3.0         | .267                  | .142 | .043 | .262 | .140 | .042 | .251                            | .136 | .041 | .242 | .133 | .041 | .233 | .129 | .040 |   |
| 4.0         | .247                  | .128 | .038 | .242 | .127 | .037 | .233                            | .124 | .037 | .225 | .121 | .036 | .217 | .118 | .036 |   |
| 5.0         | .229                  | .117 | .034 | .224 | .115 | .034 | .216                            | .113 | .033 | .209 | .110 | .033 | .202 | .108 | .032 |   |
| 6.0         | .212                  | .106 | .030 | .209 | .105 | .030 | .201                            | .103 | .030 | .195 | .101 | .030 | .188 | .099 | .029 |   |
| 7.0         | .198                  | .098 | .028 | .194 | .097 | .028 | .188                            | .095 | .027 | .182 | .093 | .027 | .176 | .092 | .027 |   |
| 8.0         | .185                  | .090 | .025 | .182 | .090 | .025 | .176                            | .088 | .025 | .171 | .086 | .025 | .165 | .085 | .025 |   |
| 9.0         | .173                  | .084 | .023 | .171 | .083 | .023 | .165                            | .082 | .023 | .161 | .080 | .023 | .156 | .079 | .023 |   |
| 10.0        | .163                  | .078 | .022 | .161 | .078 | .022 | .156                            | .076 | .022 | .151 | .075 | .021 | .147 | .074 | .021 |   |

| 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  | .191                  | .191 | .191 | .163 | .163 | .163 | .112                                       | .112 | .112 | .064 | .064 | .064 | .020 | .020 | .020 |   |
| 1.0  | .181                  | .157 | .135 | .155 | .135 | .117 | .106                                       | .093 | .081 | .061 | .054 | .047 | .019 | .017 | .015 |   |
| 2.0  | .172                  | .133 | .099 | .148 | .114 | .086 | .101                                       | .079 | .060 | .058 | .046 | .035 | .019 | .015 | .011 |   |
| 3.0  | .165                  | .115 | .075 | .141 | .099 | .065 | .097                                       | .069 | .046 | .056 | .040 | .027 | .018 | .013 | .009 |   |
| 4.0  | .157                  | .102 | .059 | .135 | .088 | .052 | .093                                       | .061 | .036 | .054 | .036 | .021 | .017 | .012 | .007 |   |
| 5.0  | .150                  | .091 | .048 | .129 | .079 | .042 | .089                                       | .055 | .030 | .051 | .032 | .018 | .017 | .011 | .006 |   |
| 6.0  | .143                  | .083 | .040 | .123 | .072 | .035 | .085                                       | .050 | .025 | .049 | .030 | .015 | .016 | .010 | .005 |   |
| 7.0  | .136                  | .076 | .034 | .117 | .066 | .030 | .081                                       | .046 | .021 | .047 | .027 | .013 | .015 | .009 | .004 |   |
| 8.0  | .129                  | .070 | .030 | .111 | .061 | .026 | .077                                       | .043 | .018 | .045 | .025 | .011 | .015 | .008 | .004 |   |
| 9.0  | .123                  | .065 | .026 | .106 | .057 | .023 | .074                                       | .040 | .016 | .043 | .024 | .010 | .014 | .008 | .003 |   |
| 10.0 | .118                  | .061 | .023 | .101 | .053 | .020 | .070                                       | .037 | .014 | .041 | .022 | .009 | .013 | .007 | .003 |   |

C Range: 0 - 360DEG  
 C Interval: 22.5DEG  
 Test Speed: 10.0deg/s  
 Temperature:25.3DEG  
 Operators:ben  
 Test Date:2016-12-16

$\gamma$  Range: 0 - 180DEG  
 $\gamma$  Interval: 1.0DEG  
 Test System:EVERFINE G0-R5000\_V2 SYSTEM V2.0.351  
 Humidity:43%  
 Test Distance:2.437m [K=1.0000]  
 Remarks:

### UGR(Unified Glare Rating) Table

|                                                                   |               |                  |      |      |           |               |                |                     |      |      |      |
|-------------------------------------------------------------------|---------------|------------------|------|------|-----------|---------------|----------------|---------------------|------|------|------|
| Test:U:120.0V I:0.1848A P:22.09W PF:0.9960 Lamp Flux:1764.98x1 lm |               |                  |      |      |           |               |                |                     |      |      |      |
| NAME: inseparable ssl luminaire                                   |               |                  |      |      | TYPE:N/A  |               |                | WEIGHT:N/A          |      |      |      |
| SPEC.:N/A                                                         |               |                  |      |      | DIM.: N/A |               |                | SERIAL No.:N/A      |      |      |      |
| MFR.: Libo                                                        |               |                  |      |      | 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                                                     | 2H            | 18.8             | 20.3 | 19.1 | 20.5      | 20.7          | 18.6           | 20.1                | 18.8 | 20.3 | 20.5 |
|                                                                   | 3H            | 20.2             | 21.6 | 20.5 | 21.9      | 22.1          | 19.9           | 21.3                | 20.2 | 21.5 | 21.8 |
|                                                                   | 4H            | 20.8             | 22.2 | 21.1 | 22.4      | 22.7          | 20.4           | 21.7                | 20.7 | 22.0 | 22.2 |
|                                                                   | 6H            | 21.2             | 22.5 | 21.6 | 22.8      | 23.0          | 20.7           | 22.0                | 21.1 | 22.2 | 22.5 |
|                                                                   | 8H            | 21.4             | 22.6 | 21.7 | 22.9      | 23.1          | 20.8           | 22.0                | 21.1 | 22.3 | 22.6 |
|                                                                   | 12H           | 21.4             | 22.6 | 21.8 | 22.9      | 23.2          | 20.8           | 22.0                | 21.2 | 22.3 | 22.6 |
| 4H                                                                | 2H            | 19.3             | 20.7 | 19.6 | 20.9      | 21.2          | 19.1           | 20.5                | 19.5 | 20.7 | 21.0 |
|                                                                   | 3H            | 21.0             | 22.1 | 21.3 | 22.4      | 22.7          | 20.7           | 21.8                | 21.0 | 22.1 | 22.4 |
|                                                                   | 4H            | 21.7             | 22.7 | 22.1 | 23.1      | 23.4          | 21.3           | 22.4                | 21.7 | 22.7 | 23.0 |
|                                                                   | 6H            | 22.2             | 23.2 | 22.6 | 23.5      | 23.9          | 21.7           | 22.7                | 22.1 | 23.0 | 23.4 |
|                                                                   | 8H            | 22.4             | 23.3 | 22.8 | 23.6      | 24.0          | 21.9           | 22.7                | 22.3 | 23.1 | 23.5 |
|                                                                   | 12H           | 22.5             | 23.3 | 22.9 | 23.7      | 24.1          | 21.9           | 22.7                | 22.3 | 23.1 | 23.5 |
| 8H                                                                | 4H            | 21.9             | 22.8 | 22.3 | 23.1      | 23.5          | 21.6           | 22.4                | 22.0 | 22.8 | 23.2 |
|                                                                   | 6H            | 22.6             | 23.3 | 23.0 | 23.7      | 24.1          | 22.1           | 22.9                | 22.6 | 23.3 | 23.7 |
|                                                                   | 8H            | 22.8             | 23.5 | 23.3 | 23.9      | 24.3          | 22.3           | 23.0                | 22.8 | 23.4 | 23.8 |
|                                                                   | 12H           | 23.0             | 23.6 | 23.5 | 24.0      | 24.5          | 22.4           | 23.0                | 22.9 | 23.4 | 23.9 |
| 12H                                                               | 4H            | 21.9             | 22.7 | 22.3 | 23.1      | 23.5          | 21.6           | 22.4                | 22.0 | 22.8 | 23.2 |
|                                                                   | 6H            | 22.6             | 23.2 | 23.1 | 23.7      | 24.1          | 22.2           | 22.8                | 22.6 | 23.3 | 23.7 |
|                                                                   | 8H            | 22.9             | 23.4 | 23.4 | 23.9      | 24.4          | 22.4           | 23.0                | 22.9 | 23.4 | 23.9 |
| Variations with the observer position at spacings:                |               |                  |      |      |           |               |                |                     |      |      |      |
| S = 1.0H                                                          | + 0.2 / - 0.2 |                  |      |      |           | + 0.2 / - 0.2 |                |                     |      |      |      |
| 1.5H                                                              | + 0.2 / - 0.3 |                  |      |      |           | + 0.2 / - 0.3 |                |                     |      |      |      |
| 2.0H                                                              | + 0.2 / - 0.3 |                  |      |      |           | + 0.2 / - 0.3 |                |                     |      |      |      |

CIE Pub.117 Corrected 1765 lm Total Lamp Luminous Flux.(8log(F/F0) = 2.0)

C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: 10.0deg/s  
Temperature:25.3DEG  
Operators:ben  
Test Date:2016-12-16

γ Range: 0 - 180DEG  
γ Interval: 1.0DEG  
Test System:EVERFINE G0-R5000\_V2 SYSTEM V2.0.351  
Humidity:43%  
Test Distance:2.437m [K=1.0000]  
Remarks:

### UTILIZATION FACTORS TABLE

|                                                                   |           |                     |
|-------------------------------------------------------------------|-----------|---------------------|
| Test:U:120.0V I:0.1848A P:22.09W PF:0.9960 Lamp Flux:1764.98x1 lm |           |                     |
| NAME: inseparable ssl luminaire                                   | TYPE:N/A  | WEIGHT:N/A          |
| SPEC.:N/A                                                         | DIM.: N/A | SERIAL No.:N/A      |
| MFR.: Libo                                                        | SUR.:N/A  | Shielding Angle:N/A |

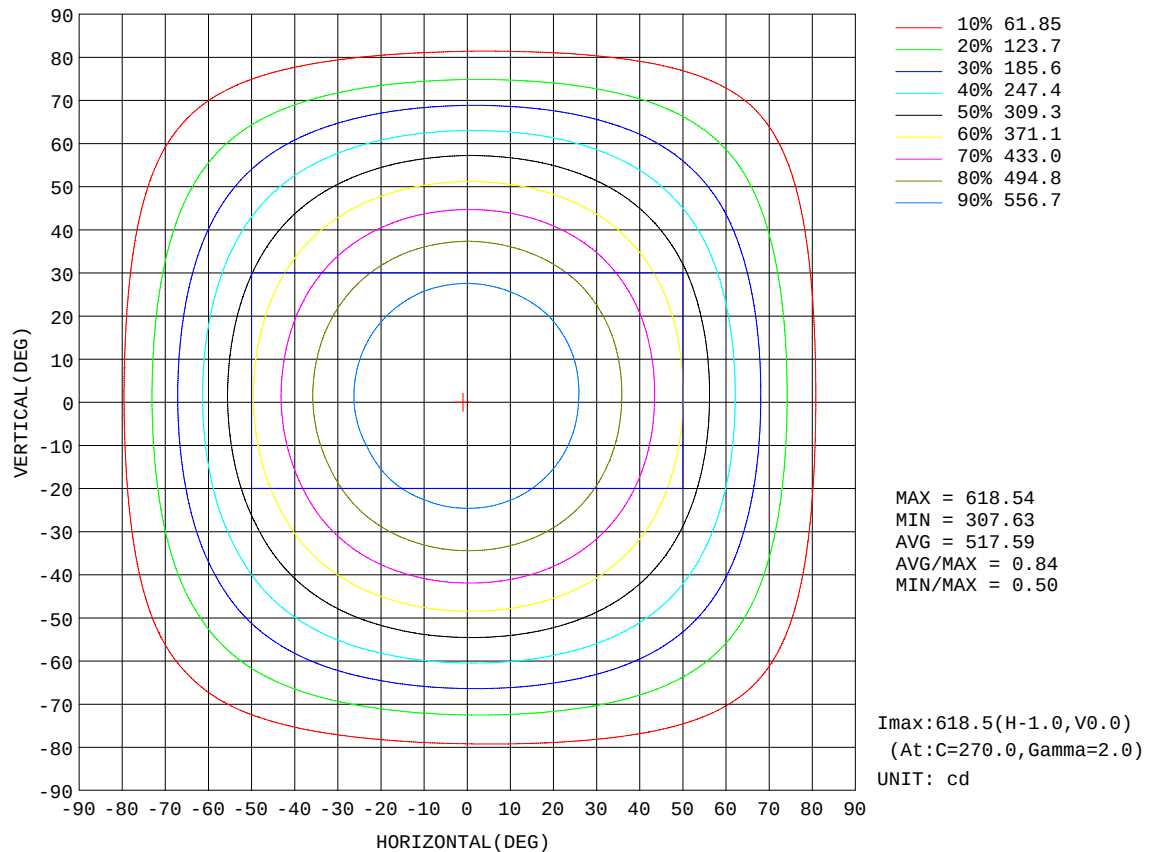
| REFLECTANCE                      |                                                     |     |           |     |     |     |     |               |     |        |
|----------------------------------|-----------------------------------------------------|-----|-----------|-----|-----|-----|-----|---------------|-----|--------|
| 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) $k(RI) \times RCR = 5$ |     |           |     |     |     |     |               |     |        |
| $k = 0.60$                       | 58                                                  | 46  | 39        | 57  | 46  | 39  | 56  | 46            | 39  | 33     |
| 0.80                             | 68                                                  | 56  | 49        | 67  | 56  | 49  | 65  | 55            | 49  | 42     |
| 1.00                             | 76                                                  | 65  | 58        | 75  | 65  | 58  | 73  | 66            | 57  | 50     |
| 1.25                             | 84                                                  | 73  | 66        | 82  | 72  | 66  | 79  | 71            | 65  | 58     |
| 1.50                             | 88                                                  | 79  | 72        | 87  | 78  | 71  | 84  | 76            | 70  | 63     |
| 2.00                             | 95                                                  | 87  | 80        | 93  | 86  | 80  | 90  | 83            | 78  | 70     |
| 2.50                             | 99                                                  | 91  | 86        | 97  | 90  | 85  | 93  | 87            | 83  | 74     |
| 3.00                             | 102                                                 | 96  | 90        | 100 | 94  | 89  | 96  | 91            | 87  | 79     |
| 4.00                             | 106                                                 | 101 | 96        | 104 | 99  | 95  | 100 | 96            | 92  | 83     |
| 5.00                             | 109                                                 | 104 | 100       | 106 | 102 | 98  | 102 | 98            | 95  | 86     |
| 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: 10.0deg/s  
 Temperature:25.3DEG  
 Operators:ben  
 Test Date:2016-12-16

γ Range: 0 - 180DEG  
 γ Interval: 1.0DEG  
 Test System:EVERFINE G0-R5000\_V2 SYSTEM V2.0.351  
 Humidity:43%  
 Test Distance:2.437m [K=1.0000]  
 Remarks:

### ISOCANDELA DIAGRAM

|                                                                   |           |                     |
|-------------------------------------------------------------------|-----------|---------------------|
| Test:U:120.0V I:0.1848A P:22.09W PF:0.9960 Lamp Flux:1764.98x1 lm |           |                     |
| NAME: inseparable ssl luminaire                                   | TYPE:N/A  | WEIGHT:N/A          |
| SPEC.:N/A                                                         | DIM.: N/A | SERIAL No.:N/A      |
| MFR.: Libo                                                        | SUR.:N/A  | Shielding Angle:N/A |



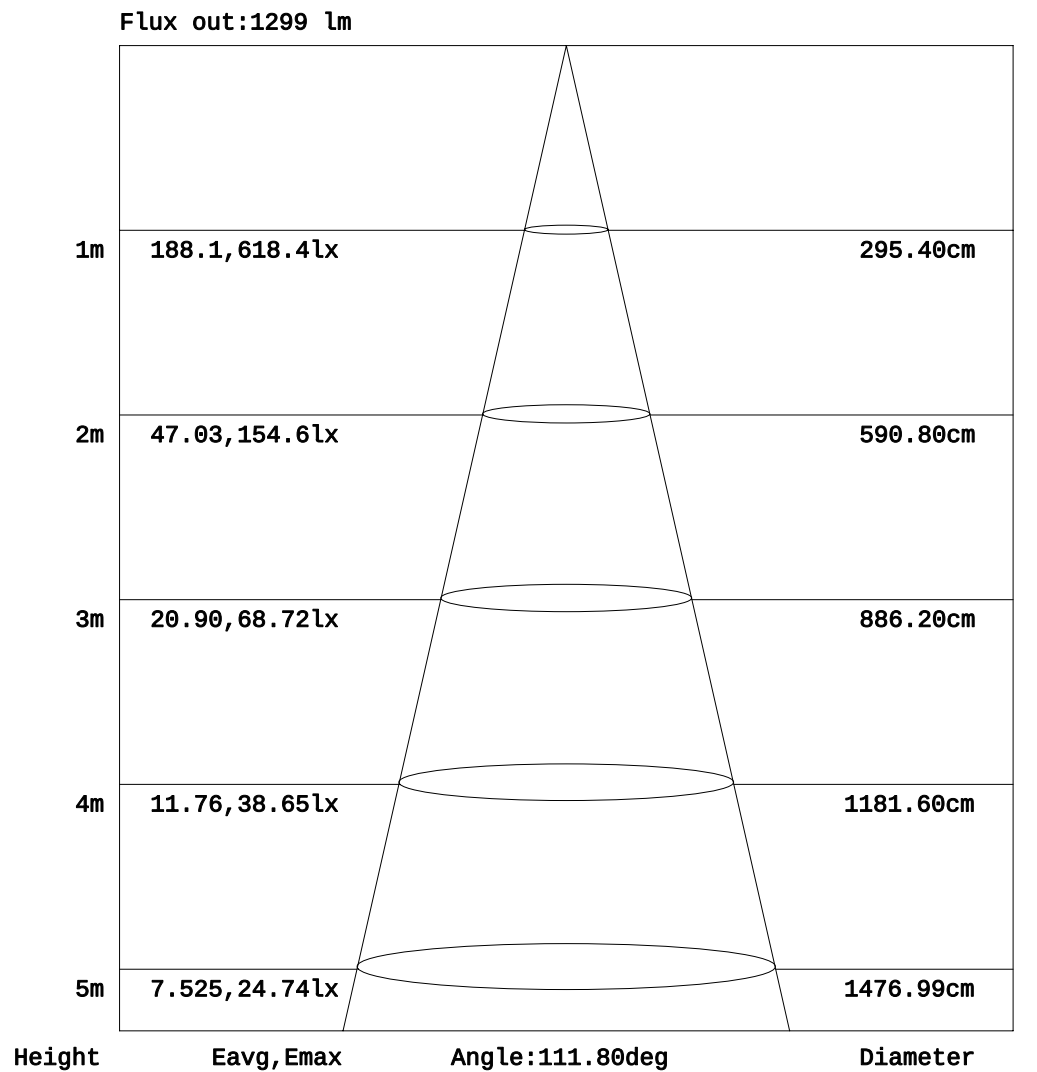
C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: 10.0deg/s  
Temperature: 25.3DEG  
Operators: ben  
Test Date: 2016-12-16

γ Range: 0 - 180DEG  
γ Interval: 1.0DEG  
Test System: EVERFINE G0-R5000\_V2 SYSTEM V2.0.351  
Humidity: 43%  
Test Distance: 2.437m [K=1.0000]  
Remarks:



### AAI Figure

|                                                                   |           |                     |
|-------------------------------------------------------------------|-----------|---------------------|
| Test:U:120.0V I:0.1848A P:22.09W PF:0.9960 Lamp Flux:1764.98x1 lm |           |                     |
| NAME: inseparable ssl luminaire                                   | TYPE:N/A  | WEIGHT:N/A          |
| SPEC.:N/A                                                         | DIM.: N/A | SERIAL No.:N/A      |
| MFR.: Libo                                                        | SUR.:N/A  | Shielding Angle:N/A |



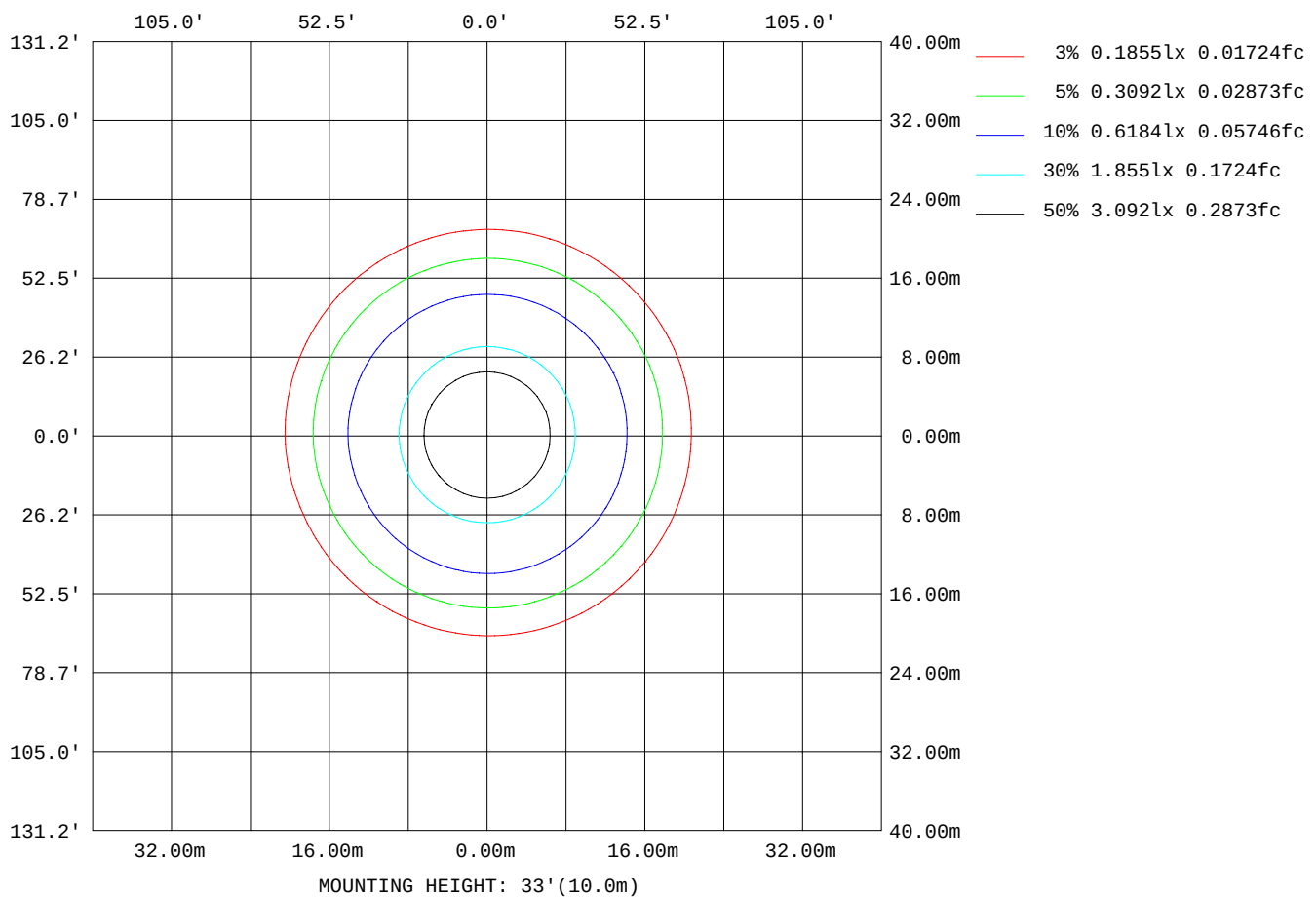
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: 10.0deg/s  
Temperature:25.3DEG  
Operators:ben  
Test Date:2016-12-16

γ Range: 0 - 180DEG  
γ Interval: 1.0DEG  
Test System:EVERFINE G0-R5000\_V2 SYSTEM V2.0.351  
Humidity:43%  
Test Distance:2.437m [K=1.0000]  
Remarks:

**ISOLUX DIAGRAM**

|                                                                   |           |                     |
|-------------------------------------------------------------------|-----------|---------------------|
| Test:U:120.0V I:0.1848A P:22.09W PF:0.9960 Lamp Flux:1764.98x1 lm |           |                     |
| NAME: inseparable ssl luminaire                                   | TYPE:N/A  | WEIGHT:N/A          |
| SPEC.:N/A                                                         | DIM.: N/A | SERIAL No.:N/A      |
| MFR.: Libo                                                        | SUR.:N/A  | Shielding Angle:N/A |



C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: 10.0deg/s  
Temperature:25.3DEG  
Operators:ben  
Test Date:2016-12-16

γ Range: 0 - 180DEG  
γ Interval: 1.0DEG  
Test System:EVERFINE G0-R5000\_V2 SYSTEM V2.0.351  
Humidity:43%  
Test Distance:2.437m [K=1.0000]  
Remarks:

### LED Avg.L Report

|                                                                   |           |                     |
|-------------------------------------------------------------------|-----------|---------------------|
| Test:U:120.0V I:0.1848A P:22.09W PF:0.9960 Lamp Flux:1764.98x1 lm |           |                     |
| NAME: inseparable ssl luminaire                                   | TYPE:N/A  | WEIGHT:N/A          |
| SPEC.:N/A                                                         | DIM.: N/A | SERIAL No.:N/A      |
| MFR.: Libo                                                        | SUR.:N/A  | Shielding Angle:N/A |

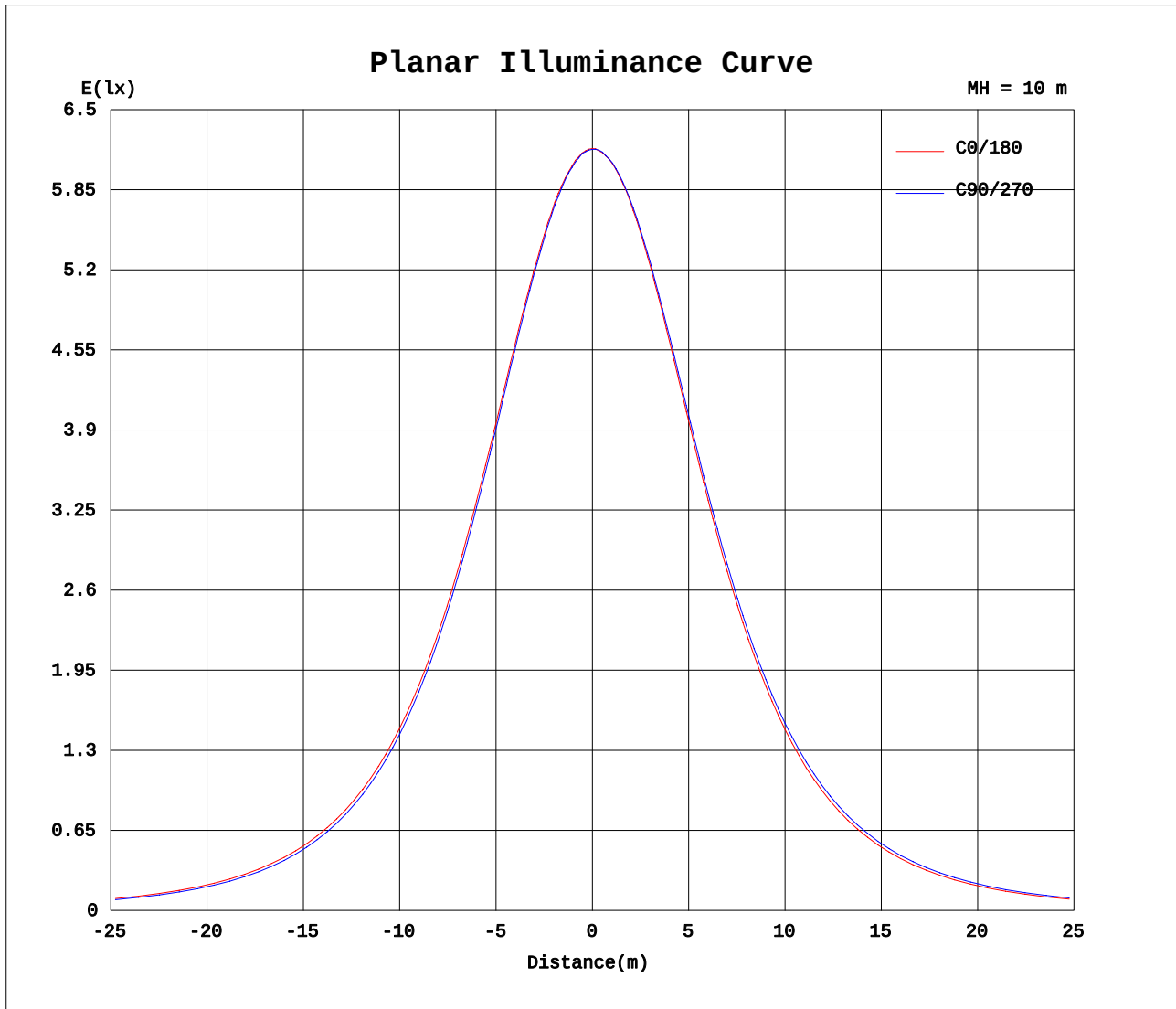
| AvgL           | cd/m2 |
|----------------|-------|
| L_0~180(65)av  | 5035  |
| L_0~180(75)av  | 4240  |
| L_0~180(85)av  | 2753  |
| L_90~270(65)av | 5047  |
| L_90~270(75)av | 4282  |
| L_90~270(85)av | 2910  |
| L_45(65)av     | 5036  |
| L_45(75)av     | 4260  |
| L_45(85)av     | 2842  |

Standard: GB/T 29293-2012

C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: 10.0deg/s  
Temperature:25.3DEG  
Operators:ben  
Test Date:2016-12-16

γ Range: 0 - 180DEG  
γ Interval: 1.0DEG  
Test System:EVERFINE G0-R5000\_V2 SYSTEM V2.0.351  
Humidity:43%  
Test Distance:2.437m [K=1.0000]  
Remarks:

## Planar Illuminance Curve



C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: 10.0deg/s  
Temperature: 25.3DEG  
Operators: ben  
Test Date: 2016-12-16

γ Range: 0 - 180DEG  
γ Interval: 1.0DEG  
Test System: EVERFINE G0-R5000\_V2 SYSTEM V2.0.351  
Humidity: 43%  
Test Distance: 2.437m [K=1.0000]  
Remarks:

## LUMINOUS DISTRIBUTION INTENSITY DATA

|                                                                   |           |                      |
|-------------------------------------------------------------------|-----------|----------------------|
| Test:U:120.0V I:0.1848A P:22.09W PF:0.9960 Lamp Flux:1764.98x1 lm |           |                      |
| NAME: inseparable ssl luminaire                                   | TYPE: N/A | WEIGHT: N/A          |
| SPEC.: N/A                                                        | DIM.: N/A | SERIAL No.: N/A      |
| MFR.: Libo                                                        | 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                  | 618  | 618  | 618  | 618  | 618  | 618   | 618  | 618   | 618  | 618   | 618  | 618   | 618  | 618   | 618  | 618   |  |  |  |
| 5                  | 616  | 615  | 615  | 615  | 615  | 615   | 615  | 616   | 616  | 617   | 617  | 617   | 617  | 617   | 616  | 616   |  |  |  |
| 10                 | 609  | 608  | 607  | 607  | 607  | 608   | 608  | 609   | 611  | 611   | 612  | 612   | 612  | 612   | 611  | 610   |  |  |  |
| 15                 | 598  | 596  | 595  | 595  | 595  | 596   | 597  | 598   | 600  | 602   | 601  | 603   | 603  | 602   | 602  | 600   |  |  |  |
| 20                 | 582  | 580  | 579  | 578  | 578  | 578   | 579  | 581   | 585  | 586   | 588  | 589   | 589  | 588   | 587  | 585   |  |  |  |
| 25                 | 561  | 558  | 556  | 555  | 555  | 555   | 557  | 558   | 562  | 565   | 568  | 569   | 569  | 569   | 567  | 565   |  |  |  |
| 30                 | 534  | 531  | 528  | 527  | 526  | 526   | 527  | 530   | 535  | 538   | 540  | 543   | 543  | 543   | 541  | 539   |  |  |  |
| 35                 | 500  | 497  | 494  | 492  | 491  | 491   | 492  | 495   | 501  | 504   | 508  | 510   | 512  | 511   | 509  | 507   |  |  |  |
| 40                 | 462  | 458  | 455  | 452  | 450  | 450   | 451  | 454   | 461  | 465   | 469  | 472   | 473  | 474   | 472  | 469   |  |  |  |
| 45                 | 418  | 414  | 410  | 407  | 404  | 404   | 405  | 408   | 416  | 420   | 424  | 428   | 430  | 431   | 429  | 426   |  |  |  |
| 50                 | 371  | 366  | 362  | 358  | 356  | 355   | 356  | 359   | 367  | 371   | 376  | 380   | 383  | 384   | 382  | 379   |  |  |  |
| 55                 | 321  | 316  | 312  | 308  | 305  | 304   | 304  | 307   | 315  | 320   | 325  | 329   | 332  | 333   | 332  | 329   |  |  |  |
| 60                 | 269  | 265  | 260  | 256  | 253  | 251   | 251  | 254   | 262  | 267   | 272  | 276   | 280  | 281   | 280  | 278   |  |  |  |
| 65                 | 217  | 213  | 208  | 204  | 200  | 198   | 198  | 200   | 208  | 213   | 218  | 223   | 226  | 228   | 227  | 225   |  |  |  |
| 70                 | 166  | 161  | 157  | 152  | 149  | 146   | 146  | 148   | 155  | 160   | 165  | 169   | 173  | 175   | 175  | 173   |  |  |  |
| 75                 | 115  | 112  | 108  | 103  | 99.7 | 97.3  | 96.3 | 97.6  | 104  | 108   | 113  | 118   | 122  | 124   | 124  | 122   |  |  |  |
| 80                 | 68.9 | 65.8 | 62.3 | 58.6 | 55.2 | 52.9  | 52.0 | 52.5  | 58.1 | 61.7  | 66.1 | 70.4  | 73.9 | 76.0  | 76.2 | 74.7  |  |  |  |
| 85                 | 28.2 | 26.0 | 23.5 | 20.8 | 18.1 | 16.1  | 15.0 | 15.4  | 19.8 | 22.5  | 26.0 | 29.7  | 32.7 | 34.5  | 34.6 | 33.5  |  |  |  |
| 90                 | 3.02 | 2.48 | 0.19 | 0.16 | 0.11 | 0.11  | 0.11 | 0.11  | 0.06 | 0.07  | 0.08 | 0.77  | 2.15 | 3.26  | 3.24 | 2.72  |  |  |  |
| 95                 | 0.16 | 0.15 | 0.14 | 0.14 | 0.14 | 0.14  | 0.14 | 0.14  | 0.07 | 0.07  | 0.07 | 0.07  | 0.07 | 0.07  | 0.07 | 0.09  |  |  |  |
| 100                | 0.17 | 0.17 | 0.17 | 0.16 | 0.17 | 0.17  | 0.17 | 0.17  | 0.09 | 0.09  | 0.09 | 0.09  | 0.09 | 0.08  | 0.09 | 0.10  |  |  |  |
| 105                | 0.18 | 0.18 | 0.18 | 0.19 | 0.19 | 0.19  | 0.19 | 0.19  | 0.11 | 0.11  | 0.11 | 0.10  | 0.10 | 0.10  | 0.10 | 0.11  |  |  |  |
| 110                | 0.18 | 0.18 | 0.19 | 0.19 | 0.20 | 0.20  | 0.20 | 0.19  | 0.13 | 0.13  | 0.13 | 0.13  | 0.12 | 0.12  | 0.12 | 0.12  |  |  |  |
| 115                | 0.18 | 0.19 | 0.19 | 0.20 | 0.21 | 0.21  | 0.20 | 0.20  | 0.16 | 0.15  | 0.15 | 0.15  | 0.15 | 0.15  | 0.14 | 0.14  |  |  |  |
| 120                | 0.20 | 0.20 | 0.20 | 0.21 | 0.21 | 0.22  | 0.21 | 0.21  | 0.19 | 0.18  | 0.18 | 0.18  | 0.18 | 0.17  | 0.17 | 0.16  |  |  |  |
| 125                | 0.23 | 0.23 | 0.23 | 0.23 | 0.24 | 0.24  | 0.24 | 0.24  | 0.22 | 0.21  | 0.21 | 0.21  | 0.20 | 0.20  | 0.20 | 0.19  |  |  |  |
| 130                | 0.27 | 0.27 | 0.27 | 0.28 | 0.29 | 0.29  | 0.28 | 0.28  | 0.26 | 0.25  | 0.24 | 0.24  | 0.23 | 0.24  | 0.23 | 0.23  |  |  |  |
| 135                | 0.32 | 0.32 | 0.33 | 0.33 | 0.35 | 0.35  | 0.34 | 0.33  | 0.30 | 0.29  | 0.28 | 0.28  | 0.28 | 0.27  | 0.26 | 0.27  |  |  |  |
| 140                | 0.38 | 0.40 | 0.41 | 0.41 | 0.42 | 0.43  | 0.42 | 0.39  | 0.33 | 0.31  | 0.32 | 0.32  | 0.31 | 0.31  | 0.31 | 0.31  |  |  |  |
| 145                | 0.48 | 0.50 | 0.52 | 0.53 | 0.54 | 0.54  | 0.52 | 0.49  | 0.35 | 0.34  | 0.35 | 0.36  | 0.36 | 0.35  | 0.34 | 0.34  |  |  |  |
| 150                | 0.57 | 0.61 | 0.63 | 0.63 | 0.64 | 0.65  | 0.63 | 0.59  | 0.37 | 0.36  | 0.37 | 0.39  | 0.39 | 0.38  | 0.37 | 0.38  |  |  |  |
| 155                | 0.66 | 0.69 | 0.69 | 0.69 | 0.70 | 0.71  | 0.70 | 0.67  | 0.41 | 0.39  | 0.42 | 0.43  | 0.42 | 0.43  | 0.41 | 0.43  |  |  |  |
| 160                | 0.73 | 0.73 | 0.74 | 0.76 | 0.74 | 0.77  | 0.76 | 0.72  | 0.45 | 0.44  | 0.45 | 0.45  | 0.45 | 0.44  | 0.42 | 0.46  |  |  |  |
| 165                | 0.72 | 0.72 | 0.72 | 0.73 | 0.74 | 0.75  | 0.75 | 0.72  | 0.47 | 0.46  | 0.45 | 0.47  | 0.47 | 0.45  | 0.44 | 0.48  |  |  |  |
| 170                | 0.69 | 0.68 | 0.67 | 0.67 | 0.68 | 0.69  | 0.70 | 0.68  | 0.50 | 0.49  | 0.47 | 0.47  | 0.48 | 0.46  | 0.46 | 0.48  |  |  |  |
| 175                | 0.68 | 0.66 | 0.66 | 0.63 | 0.63 | 0.66  | 0.67 | 0.67  | 0.55 | 0.55  | 0.52 | 0.51  | 0.50 | 0.48  | 0.51 | 0.53  |  |  |  |
| 180                | 0.61 | 0.58 | 0.58 | 0.56 | 0.58 | 0.58  | 0.59 | 0.60  | 0.61 | 0.61  | 0.59 | 0.58  | 0.56 | 0.57  | 0.58 | 0.60  |  |  |  |

C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: 10.0deg/s  
Temperature: 25.3DEG  
Operators: ben  
Test Date: 2016-12-16

γ Range: 0 - 180DEG  
γ Interval: 1.0DEG  
Test System: EVERFINE G0-R5000\_V2 SYSTEM V2.0.351  
Humidity: 43%  
Test Distance: 2.437m [K=1.0000]  
Remarks: