

### Luminaire Photograph

202 026 105 02 DOWN LIGHT 3000K 16W  
Hera GmbH & Co. KG

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C Range: 0 - 360DEG  
C Interval: 30.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:Killua  
Test Date:2015-03-10

g Range: 0 - 180DEG  
g Interval: 1.0DEG  
Test System:EVERFINE GO-R3000(2M2D) SYSTEM V1.0.203  
Humidity:65.0%  
Test Distance:2.500m [K=1.3016]  
Remarks: LAMP:SMD 3014 3000K 1438mm 16W ww  
LANS:WHITE PC  
30minutes warm-up

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM

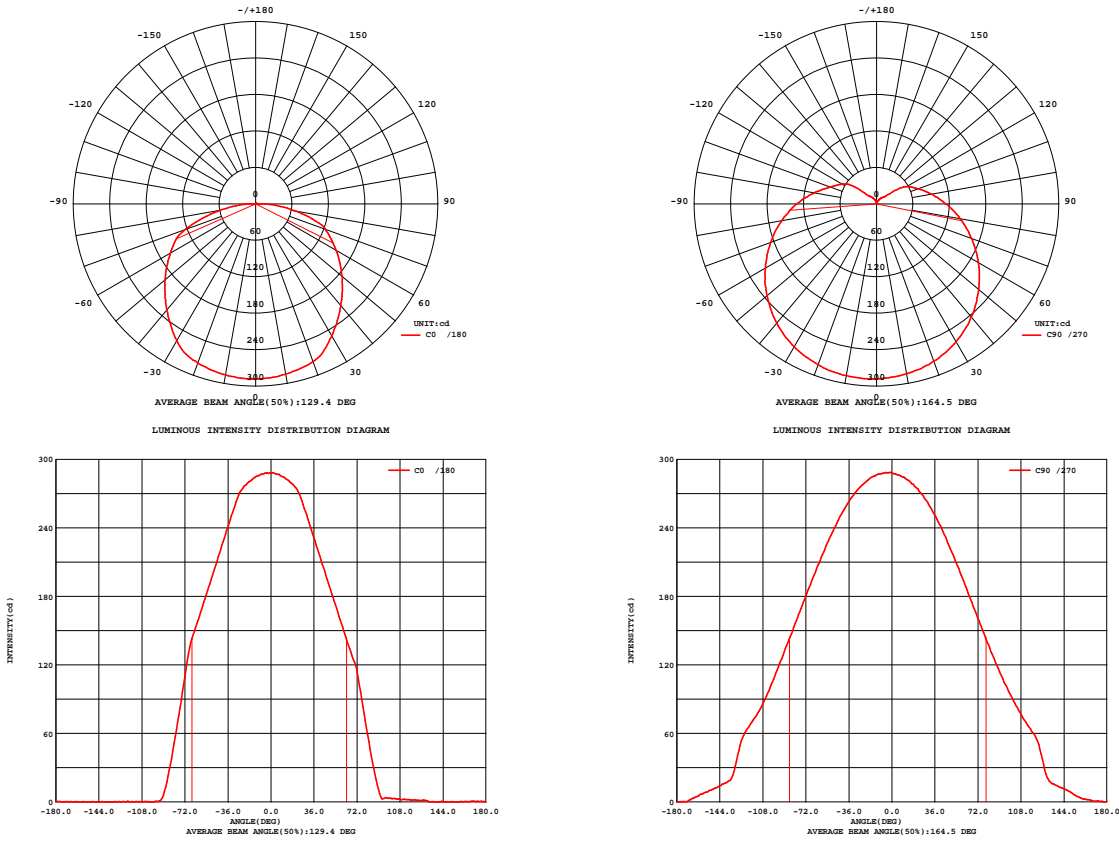


Fig. C0/C180

Fig. C90/C270

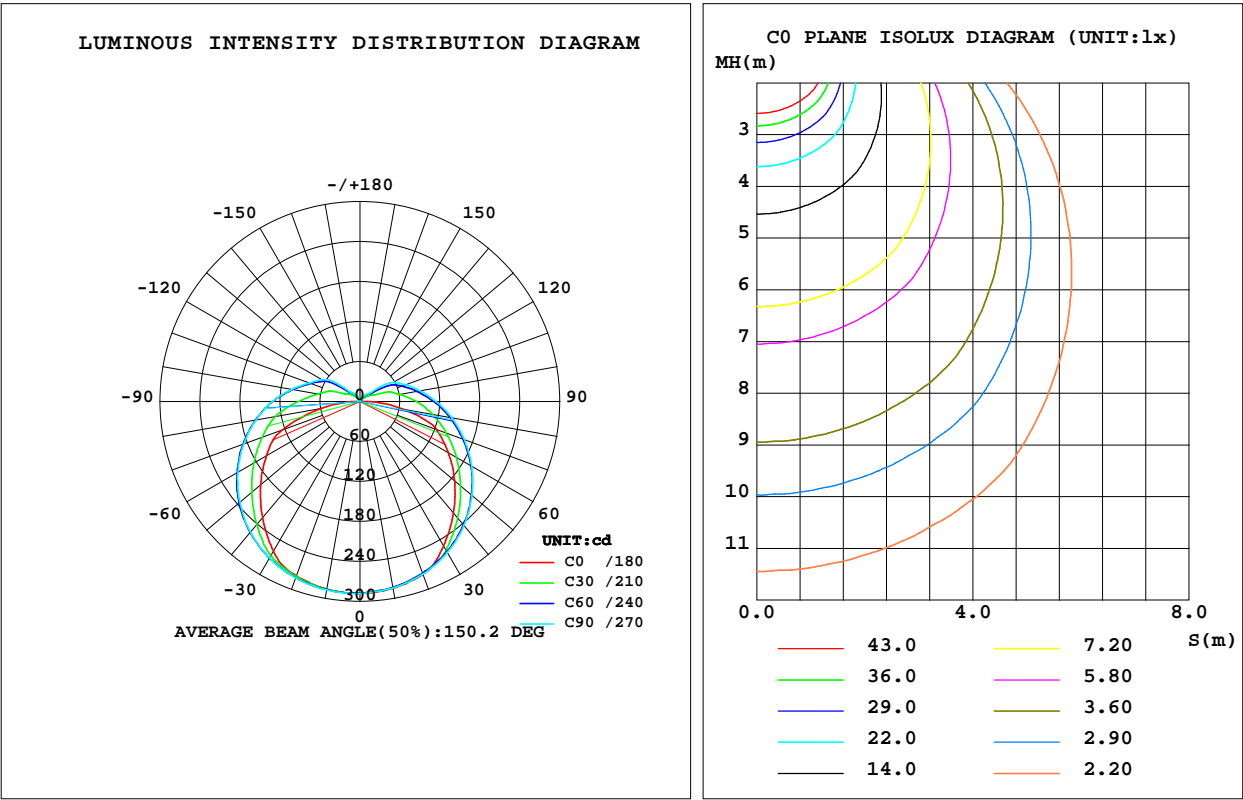
C Range: 0 - 360DEG  
C Interval: 30.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:Killua  
Test Date:2015-03-10

g Range: 0 - 180DEG  
g Interval: 1.0DEG  
Test System:EVERFINE GO-R3000(2M2D) SYSTEM V1.0.203  
Humidity:65.0%  
Test Distance:2.500m [K=1.3016]  
Remarks: LAMP:SMD 3014 3000K 1438mm 16W ww  
LANS:WHITE PC  
30minutes warm-up

LUMINAIRE PHOTOMETRIC TEST REPORT

|  |                         |                       |
|--|-------------------------|-----------------------|
| Test:U:230.3V I:0.0748A P:16.05W PF:0.9322 Lamp Flux:1599x1 lm |                         |                       |
| NAME: 202 026 105 02   | TYPE:DOWN LIGHT         | WEIGHT:               |
| DIMENSION:   | SPECIFICATION:3000K 16W | SERIAL No.:1503106710 |
| MANUFACTURER: Hera GmbH & Co. KG                               | SURFACE:0.0276m2        | PROTECTION ANGLE:     |

| DATA OF LAMP     |          | PHOTOMETRIC DATA |         |                |      | Eff: 88.64 lm/W |
|------------------|----------|------------------|---------|----------------|------|-----------------|
| MODEL            | SMD 3014 | Imax(cd)         | 288.6   | S/MH(C0/180)   | 1.33 |                 |
| NOMINAL POWER(W) | 16       | EFFICIENCY(%)    | 89.0    | S/MH(C90/270)  | 1.42 |                 |
| RATED VOLTAGE(V) | 226      | TOTAL FLUX(lm)   | 1422.9  | h UP(C0-180)   | 8.0  |                 |
| NOMINAL FLUX(lm) | 1599.4   | CIE CLASS        | SEMI-D. | h DN(C0-180)   | 38.1 |                 |
| LAMPS INSIDE     | 1        | h up(%)          | 14.9    | h UP(C180-360) | 6.9  |                 |
| TEST VOLTAGE(V)  | 225.7    | h down(%)        | 74.1    | h DN(C180-360) | 36.0 |                 |

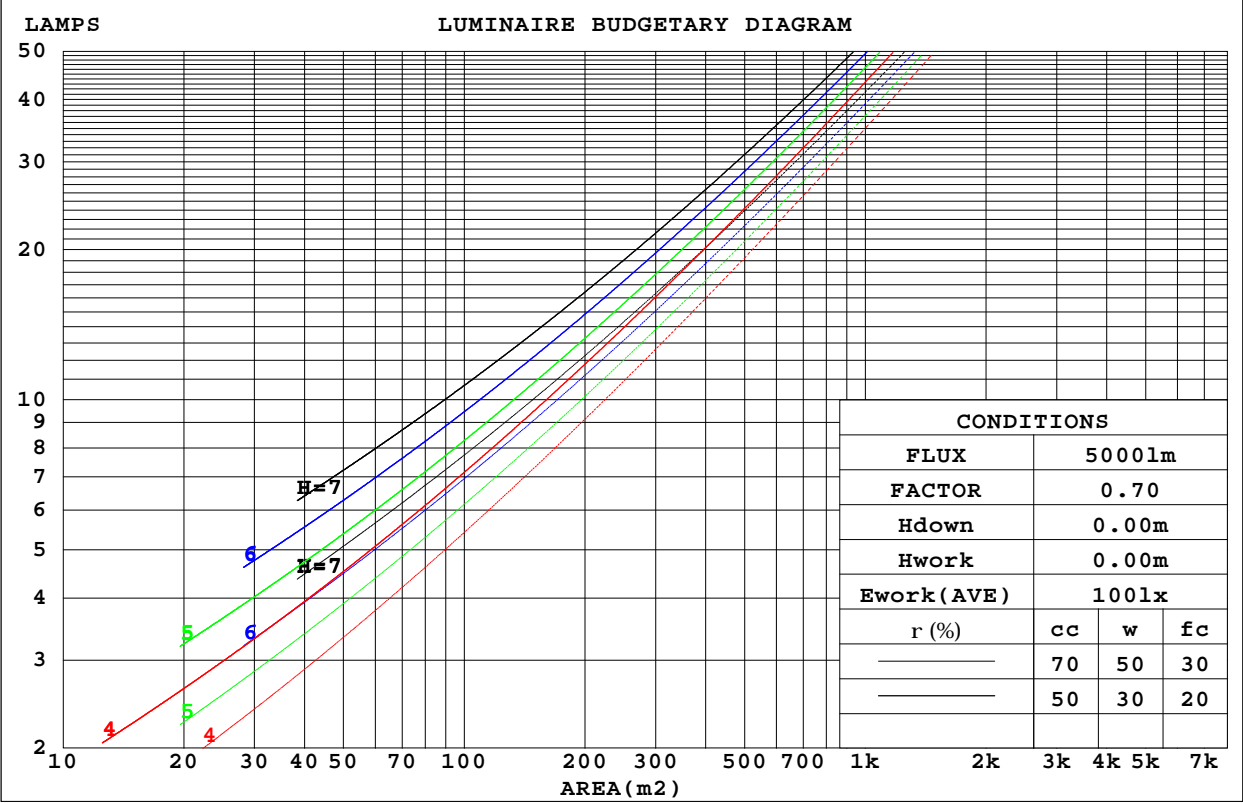


C Range: 0 - 360DEG  
C Interval: 30.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:Killua  
Test Date:2015-03-10

g Range: 0 - 180DEG  
g Interval: 1.0DEG  
Test System:EVERFINE GO-R3000(2M2D) SYSTEM V1.0.203  
Humidity:65.0%  
Test Distance:2.500m [K=1.3016]  
Remarks: LAMP:SMD 3014 3000K 1438mm 16W ww  
LANS:WHITE PC  
30minutes warm-up

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

|      |                       |      |      |                                 |     |     |     |     |     |     |     |     |     |     |     |     |
|------|-----------------------|------|------|---------------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| rcc  | 80%                   |      |      | 70%                             |     |     | 50% |     |     | 30% |     |     | 10% |     |     | 0   |
| rw   | 50%                   | 30%  | 10%  | 50%                             | 30% | 10% | 50% | 30% | 10% | 50% | 30% | 10% | 50% | 30% | 10% | 0   |
| rfc  | 20%                   |      |      | 20%                             |     |     | 20% |     |     | 20% |     |     | 20% |     |     | 0   |
| RCR  | RCR:Room Cavity Ratio |      |      | Coefficients of Utilization(CU) |     |     |     |     |     |     |     |     |     |     |     |     |
| 0.0  | 1.02                  | 1.02 | 1.02 | .98                             | .98 | .98 | .91 | .91 | .91 | .84 | .84 | .84 | .77 | .77 | .77 | .74 |
| 1.0  | .85                   | .80  | .75  | .81                             | .77 | .73 | .74 | .71 | .68 | .68 | .65 | .63 | .63 | .60 | .58 | .55 |
| 2.0  | .72                   | .65  | .59  | .69                             | .62 | .57 | .63 | .58 | .53 | .58 | .54 | .50 | .53 | .50 | .47 | .44 |
| 3.0  | .62                   | .54  | .47  | .60                             | .52 | .46 | .55 | .49 | .43 | .50 | .45 | .41 | .46 | .42 | .38 | .35 |
| 4.0  | .55                   | .46  | .39  | .52                             | .44 | .38 | .48 | .41 | .36 | .44 | .39 | .34 | .41 | .36 | .32 | .29 |
| 5.0  | .48                   | .40  | .33  | .46                             | .38 | .32 | .43 | .36 | .31 | .39 | .34 | .29 | .36 | .31 | .27 | .25 |
| 6.0  | .43                   | .35  | .29  | .42                             | .34 | .28 | .38 | .32 | .27 | .35 | .30 | .25 | .33 | .28 | .24 | .21 |
| 7.0  | .39                   | .31  | .25  | .38                             | .30 | .24 | .35 | .28 | .23 | .32 | .26 | .22 | .30 | .25 | .21 | .19 |
| 8.0  | .35                   | .27  | .22  | .34                             | .27 | .22 | .32 | .25 | .21 | .29 | .24 | .20 | .27 | .22 | .19 | .17 |
| 9.0  | .32                   | .25  | .20  | .31                             | .24 | .19 | .29 | .23 | .18 | .27 | .21 | .17 | .25 | .20 | .17 | .15 |
| 10.0 | .30                   | .22  | .18  | .29                             | .22 | .17 | .27 | .21 | .16 | .25 | .20 | .16 | .23 | .18 | .15 | .13 |



C Range: 0 - 360DEG  
C Interval: 30.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:Killua  
Test Date:2015-03-10

g Range: 0 - 180DEG  
g Interval: 1.0DEG  
Test System:EVERFINE GO-R3000(2M2D) SYSTEM V1.0.203  
Humidity:65.0%  
Test Distance:2.500m [K=1.3016]  
Remarks: LAMP:SMD 3014 3000K 1438mm 16W ww  
LANS:WHITE PC  
30minutes warm-up

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

| g   | C0                    | C45    | C90   | C135   | C180   | C225   | C270   | C315   | g       | F zone  | F total | %lum,lamp |
|-----|-----------------------|--------|-------|--------|--------|--------|--------|--------|---------|---------|---------|-----------|
| 10  | 285.7                 | 286.3  | 286.9 | 286.6  | 284.7  | 283.6  | 284.3  | 284.9  | 0- 10   | 27.36   | 27.36   | 1.92,1.71 |
| 20  | 278.7                 | 280.4  | 281.7 | 279.9  | 276.2  | 275.1  | 275.4  | 276.6  | 10- 20  | 79.85   | 107.2   | 7.53,6.7  |
| 30  | 259.9                 | 269.7  | 271.5 | 266.7  | 251.0  | 259.2  | 262.0  | 263.2  | 20- 30  | 125.5   | 232.7   | 16.4,14.6 |
| 40  | 227.6                 | 248.6  | 255.7 | 245.2  | 218.1  | 234.8  | 242.7  | 240.8  | 30- 40  | 158.2   | 390.9   | 27.5,24.4 |
| 50  | 194.8                 | 224.3  | 235.5 | 220.9  | 185.8  | 207.9  | 219.3  | 213.7  | 40- 50  | 175.8   | 566.7   | 39.8,35.4 |
| 60  | 162.0                 | 198.3  | 211.5 | 194.9  | 153.0  | 179.6  | 193.5  | 185.4  | 50- 60  | 179.5   | 746.2   | 52.4,46.7 |
| 70  | 122.8                 | 171.5  | 185.5 | 167.4  | 122.2  | 151.2  | 166.6  | 157.2  | 60- 70  | 170.8   | 917.0   | 64.4,57.3 |
| 80  | 57.31                 | 143.9  | 158.4 | 140.2  | 64.94  | 123.8  | 139.7  | 129.8  | 70- 80  | 149.3   | 1066    | 74.9,66.7 |
| 90  | 5.997                 | 111.8  | 131.7 | 113.5  | 10.98  | 98.16  | 114.2  | 103.0  | 80- 90  | 118.2   | 1185    | 83.2,74.1 |
| 100 | 0.0157                | 83.97  | 104.6 | 86.50  | 3.376  | 74.32  | 92.47  | 77.83  | 90-100  | 88.52   | 1273    | 89.5,79.6 |
| 110 | 0.3612                | 63.07  | 81.71 | 65.52  | 2.174  | 54.58  | 73.30  | 57.76  | 100-110 | 65.41   | 1338    | 94.1,83.7 |
| 120 | 0.6154                | 42.92  | 65.46 | 43.00  | 1.872  | 33.24  | 57.45  | 36.00  | 110-120 | 43.78   | 1382    | 97.1,86.4 |
| 130 | 0.3257                | 20.12  | 35.57 | 20.92  | 1.212  | 14.43  | 21.45  | 16.30  | 120-130 | 23.91   | 1406    | 98.8,87.9 |
| 140 | 0.0230                | 12.59  | 16.38 | 13.01  | 0.2266 | 7.132  | 13.42  | 9.249  | 130-140 | 9.675   | 1416    | 99.5,88.5 |
| 150 | 0.1311                | 7.650  | 11.14 | 7.663  | 0.1886 | 3.323  | 8.367  | 4.517  | 140-150 | 4.774   | 1421    | 99.8,88.8 |
| 160 | 0.1949                | 3.548  | 6.768 | 3.798  | 0.5257 | 1.007  | 2.762  | 1.472  | 150-160 | 1.802   | 1422    | 100,88.9  |
| 170 | 0.3767                | 0.2370 | 1.396 | 0.3762 | 0.6701 | 0.7771 | 0.7680 | 0.5105 | 160-170 | 0.4376  | 1423    | 100,89    |
| 180 | 0.4686                | 0.3647 | 0     | 0.4547 | 0      | 0.0903 | 0.3341 | 0.5461 | 170-180 | 0.0402  | 1423    | 100,89    |
| DEG | LUMINOUS INTENSITY:cd |        |       |        |        |        |        |        |         | UNIT:lm |         |           |

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C Interval: 30.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:Killua  
Test Date:2015-03-10

g Range: 0 - 180DEG  
g Interval: 1.0DEG  
Test System:EVERFINE GO-R3000(2M2D) SYSTEM V1.0.203  
Humidity:65.0%  
Test Distance:2.500m [K=1.3016]  
Remarks: LAMP:SMD 3014 3000K 1438mm 16W ww  
LANS:WHITE PC  
30minutes warm-up

## WEC AND CCEC

| rcc  | 80%                   |      |      | 70%  |      |      | 50%                             |      |      | 30%  |      |      | 10%  |      |      | 0 |
|------|-----------------------|------|------|------|------|------|---------------------------------|------|------|------|------|------|------|------|------|---|
| rw   | 50%                   | 30%  | 10%  | 50%  | 30%  | 10%  | 50%                             | 30%  | 10%  | 50%  | 30%  | 10%  | 50%  | 30%  | 10%  | 0 |
| rfc  | 20%                   |      |      | 20%  |      |      | 20%                             |      |      | 20%  |      |      | 20%  |      |      | 0 |
| RCR  | RCR:Room Cavity Ratio |      |      |      |      |      | Wall Exitance Coefficients(WEC) |      |      |      |      |      |      |      |      |   |
| 0.0  |                       |      |      |      |      |      |                                 |      |      |      |      |      |      |      |      |   |
| 1.0  | .356                  | .203 | .064 | .345 | .197 | .063 | .325                            | .186 | .059 | .306 | .176 | .057 | .288 | .167 | .054 |   |
| 2.0  | .306                  | .168 | .051 | .296 | .163 | .050 | .277                            | .154 | .048 | .260 | .146 | .046 | .244 | .138 | .044 |   |
| 3.0  | .270                  | .144 | .043 | .261 | .140 | .042 | .245                            | .133 | .040 | .229 | .125 | .038 | .214 | .119 | .037 |   |
| 4.0  | .242                  | .126 | .037 | .234 | .123 | .036 | .219                            | .116 | .035 | .205 | .110 | .033 | .192 | .104 | .032 |   |
| 5.0  | .220                  | .112 | .032 | .212 | .109 | .032 | .199                            | .103 | .030 | .186 | .098 | .029 | .174 | .093 | .028 |   |
| 6.0  | .201                  | .101 | .029 | .194 | .098 | .028 | .182                            | .093 | .027 | .170 | .088 | .026 | .159 | .084 | .025 |   |
| 7.0  | .185                  | .091 | .026 | .179 | .089 | .025 | .167                            | .085 | .024 | .157 | .080 | .023 | .146 | .076 | .022 |   |
| 8.0  | .171                  | .084 | .024 | .166 | .082 | .023 | .155                            | .078 | .022 | .145 | .074 | .021 | .136 | .070 | .020 |   |
| 9.0  | .159                  | .077 | .022 | .154 | .075 | .021 | .145                            | .071 | .020 | .135 | .068 | .019 | .127 | .064 | .019 |   |
| 10.0 | .149                  | .071 | .020 | .144 | .070 | .019 | .135                            | .066 | .019 | .127 | .063 | .018 | .119 | .060 | .017 |   |

| rcc  | 80%                   |      |      | 70%  |      |      | 50%  |      |      | 30%  |      |      | 10%  |      |      | 0 |
|------|-----------------------|------|------|--|------|------|------|------|------|------|------|------|------|------|------|---|
| rw   | 50%                   | 30%  | 10%  | 50%  | 30%  | 10%  | 50%  | 30%  | 10%  | 50%  | 30%  | 10%  | 50%  | 30%  | 10%  | 0 |
| rfc  | 20%                   |      |      | 20%  |      |      | 20%  |      |      | 20%  |      |      | 20%  |      |      | 0 |
| RCR  | RCR:Room Cavity Ratio |      |      | Ceiling Cavity Exitance Coefficients(CCEC) |      |      |      |      |      |      |      |      |      |      |      |   |
| 0.0  | .283                  | .283 | .283 | .242                                       | .242 | .242 | .165 | .165 | .165 | .095 | .095 | .095 | .030 | .030 | .030 |   |
| 1.0  | .280                  | .253 | .228 | .240                                       | .217 | .196 | .164 | .149 | .135 | .094 | .086 | .079 | .030 | .028 | .025 |   |
| 2.0  | .275                  | .232 | .197 | .235                                       | .200 | .170 | .161 | .138 | .119 | .093 | .081 | .070 | .030 | .026 | .023 |   |
| 3.0  | .268                  | .218 | .178 | .230                                       | .188 | .154 | .158 | .131 | .108 | .091 | .076 | .064 | .029 | .025 | .021 |   |
| 4.0  | .261                  | .207 | .165 | .224                                       | .179 | .143 | .154 | .124 | .101 | .089 | .073 | .060 | .029 | .024 | .020 |   |
| 5.0  | .254                  | .198 | .157 | .218                                       | .171 | .136 | .150 | .120 | .096 | .087 | .070 | .057 | .028 | .023 | .019 |   |
| 6.0  | .247                  | .191 | .150 | .213                                       | .165 | .131 | .147 | .116 | .093 | .085 | .068 | .055 | .027 | .022 | .018 |   |
| 7.0  | .241                  | .185 | .146 | .207                                       | .160 | .127 | .143 | .112 | .090 | .083 | .066 | .054 | .027 | .022 | .018 |   |
| 8.0  | .235                  | .180 | .142 | .202                                       | .156 | .124 | .140 | .110 | .088 | .081 | .065 | .052 | .026 | .021 | .017 |   |
| 9.0  | .229                  | .176 | .140 | .197                                       | .153 | .122 | .137 | .107 | .087 | .080 | .063 | .052 | .026 | .021 | .017 |   |
| 10.0 | .224                  | .172 | .138 | .193                                       | .149 | .120 | .134 | .105 | .085 | .078 | .062 | .051 | .025 | .020 | .017 |   |

C Range: 0 - 360DEG  
 C Interval: 30.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:Killua  
 Test Date:2015-03-10

g Range: 0 - 180DEG  
 g Interval: 1.0DEG  
 Test System:EVERFINE GO-R3000(2M2D) SYSTEM V1.0.203  
 Humidity:65.0%  
 Test Distance:2.500m [K=1.3016]  
 Remarks: LAMP:SMD 3014 3000K 1438mm 16W ww  
 LANS:WHITE PC  
 30minutes warm-up

## Uncorrected UGR Table

|  |                  |      |      |      |      |                |      |      |      |      |
|--|------------------|------|------|------|------|----------------|------|------|------|------|
| 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                                      | 20.3             | 21.8 | 20.8 | 22.3 | 22.8 | 21.5           | 22.9 | 22.0 | 23.4 | 24.0 |
| 3H   | 22.5             | 23.8 | 23.0 | 24.3 | 24.9 | 24.1           | 25.5 | 24.7 | 26.0 | 26.6 |
| 4H   | 23.4             | 24.7 | 24.0 | 25.2 | 25.8 | 25.6           | 26.8 | 26.1 | 27.4 | 28.0 |
| 6H   | 24.2             | 25.4 | 24.7 | 25.9 | 26.5 | 27.2           | 28.4 | 27.8 | 28.9 | 29.6 |
| 8H   | 24.4             | 25.6 | 25.0 | 26.2 | 26.8 | 28.1           | 29.2 | 28.6 | 29.8 | 30.4 |
| 12H  | 24.6             | 25.7 | 25.2 | 26.3 | 27.0 | 29.1           | 30.2 | 29.7 | 30.8 | 31.4 |
| 4H 2H  | 21.4             | 22.7 | 22.0 | 23.2 | 23.8 | 22.3           | 23.5 | 22.8 | 24.0 | 24.7 |
| 3H   | 23.8             | 24.9 | 24.4 | 25.5 | 26.2 | 25.1           | 26.2 | 25.7 | 26.8 | 27.5 |
| 4H   | 25.0             | 26.0 | 25.6 | 26.6 | 27.3 | 26.8           | 27.8 | 27.4 | 28.4 | 29.1 |
| 6H   | 26.0             | 26.9 | 26.6 | 27.5 | 28.2 | 28.6           | 29.5 | 29.2 | 30.1 | 30.8 |
| 8H   | 26.4             | 27.2 | 27.0 | 27.9 | 28.6 | 29.6           | 30.4 | 30.2 | 31.1 | 31.8 |
| 12H  | 26.7             | 27.5 | 27.3 | 28.1 | 28.9 | 30.7           | 31.5 | 31.3 | 32.1 | 32.9 |
| 8H 4H  | 25.9             | 26.7 | 26.5 | 27.4 | 28.1 | 27.3           | 28.2 | 28.0 | 28.8 | 29.5 |
| 6H   | 27.3             | 28.1 | 28.0 | 28.7 | 29.5 | 29.4           | 30.1 | 30.1 | 30.8 | 31.6 |
| 8H   | 28.0             | 28.6 | 28.7 | 29.3 | 30.1 | 30.6           | 31.3 | 31.3 | 32.0 | 32.8 |
| 12H  | 28.6             | 29.1 | 29.3 | 29.8 | 30.7 | 32.0           | 32.6 | 32.7 | 33.3 | 34.1 |
| 12H 4H   | 26.2             | 26.9 | 26.8 | 27.6 | 28.4 | 27.4           | 28.2 | 28.1 | 28.8 | 29.6 |
| 6H   | 27.8             | 28.4 | 28.5 | 29.1 | 29.9 | 29.6           | 30.3 | 30.3 | 31.0 | 31.8 |
| 8H   | 28.6             | 29.2 | 29.3 | 29.9 | 30.7 | 30.9           | 31.5 | 31.7 | 32.2 | 33.0 |
| 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 / - 0.3  |      |      |      |      |
| 2.0H   | + 0.2 / - 0.4    |      |      |      |      | + 0.3 / - 0.4  |      |      |      |      |

CIE Pub.117 Corrected 1599 lm Total Lamp Luminous Flux.(8log(F/F0) = 1.6)

C Range: 0 - 360DEG  
 C Interval: 30.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:Killua  
 Test Date:2015-03-10

g Range: 0 - 180DEG  
 g Interval: 1.0DEG  
 Test System:EVERFINE GO-R3000(2M2D) SYSTEM V1.0.203  
 Humidity:65.0%  
 Test Distance:2.500m [K=1.3016]  
 Remarks: LAMP:SMD 3014 3000K 1438mm 16W ww  
 LANS:WHITE PC  
 30minutes warm-up

## UTILIZATION FACTORS TABLE

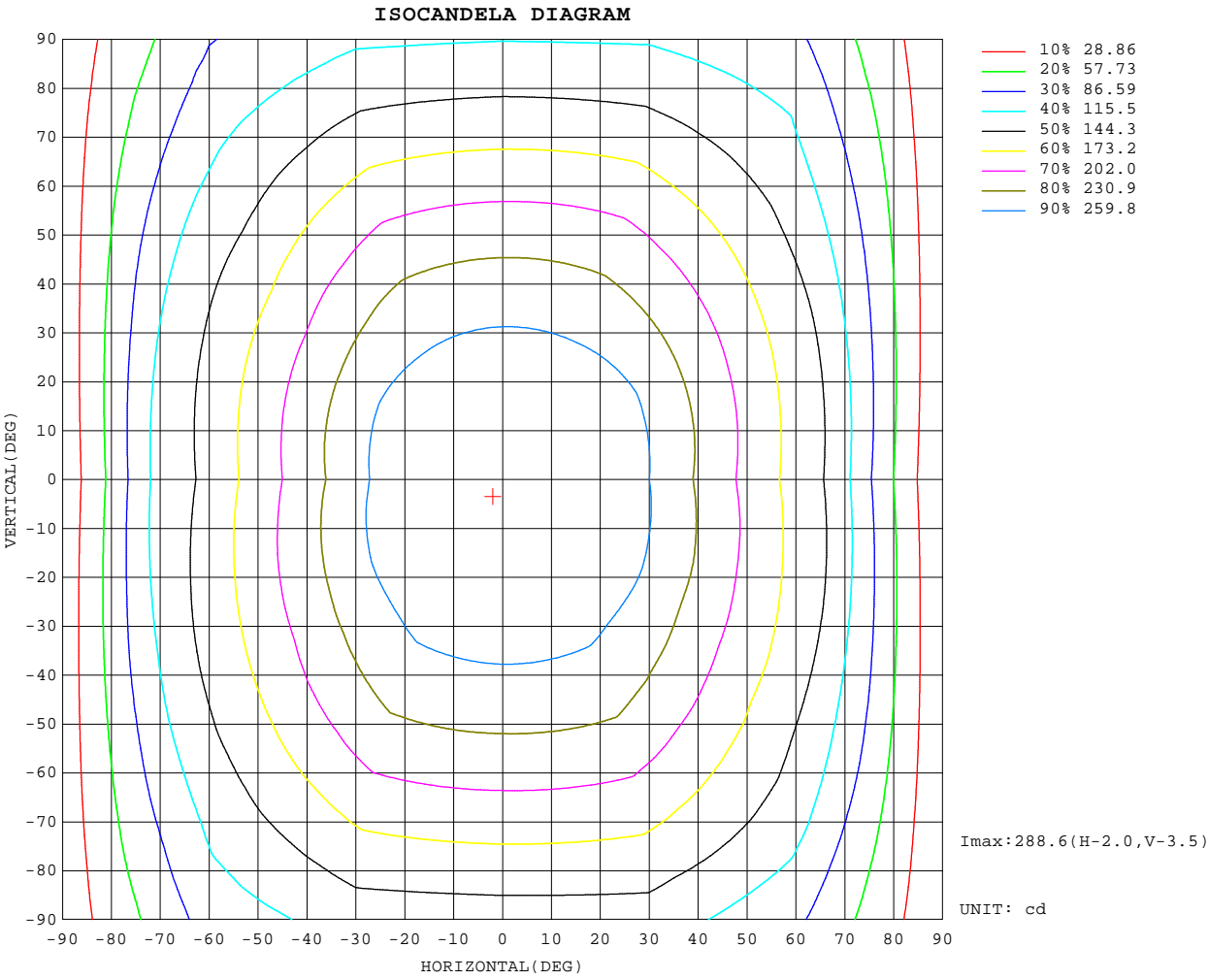
| REFLECTANCE                      |   |     |           |     |     |     |     |               |     |        |
|----------------------------------|---|-----|-----------|-----|-----|-----|-----|---------------|-----|--------|
| Ceiling                          | 0.8   | 0.8 | 0.8       | 0.7 | 0.7 | 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) $k(RI) \times RCR = 5$ |     |           |     |     |     |     |               |     |        |
| $k = 0.60$                       | 42  | 31  | 24        | 41  | 30  | 24  | 39  | 30            | 24  | 18     |
| 0.80                             | 50  | 38  | 31        | 49  | 38  | 31  | 46  | 36            | 30  | 23     |
| 1.00                             | 57  | 45  | 37        | 55  | 44  | 37  | 52  | 45            | 36  | 28     |
| 1.25                             | 63  | 51  | 44        | 61  | 50  | 43  | 57  | 48            | 42  | 33     |
| 1.50                             | 68  | 56  | 48        | 65  | 55  | 48  | 61  | 52            | 46  | 37     |
| 2.00                             | 74  | 64  | 56        | 71  | 62  | 55  | 67  | 59            | 53  | 43     |
| 2.50                             | 78  | 69  | 61        | 75  | 67  | 60  | 70  | 63            | 57  | 46     |
| 3.00                             | 82  | 73  | 66        | 78  | 71  | 64  | 73  | 66            | 61  | 49     |
| 4.00                             | 86  | 78  | 72        | 82  | 76  | 70  | 76  | 71            | 66  | 54     |
| 5.00                             | 89  | 82  | 77        | 85  | 79  | 74  | 79  | 74            | 70  | 57     |
| ROOM INDEX                       | UF(total)   |     |           |     |     |     |     |               |     | Direct |
| According to DIN EN 13032-2 2004 |   |     | Suspended |     |     |     |     | SHRNOM = 1.25 |     |        |

C Range: 0 - 360DEG  
 C Interval: 30.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:Killua  
 Test Date:2015-03-10

g Range: 0 - 180DEG  
 g Interval: 1.0DEG  
 Test System:EVERFINE GO-R3000(2M2D) SYSTEM V1.0.203  
 Humidity:65.0%  
 Test Distance:2.500m [K=1.3016]  
 Remarks: LAMP:SMD 3014 3000K 1438mm 16W ww  
 LANS:WHITE PC  
 30minutes warm-up



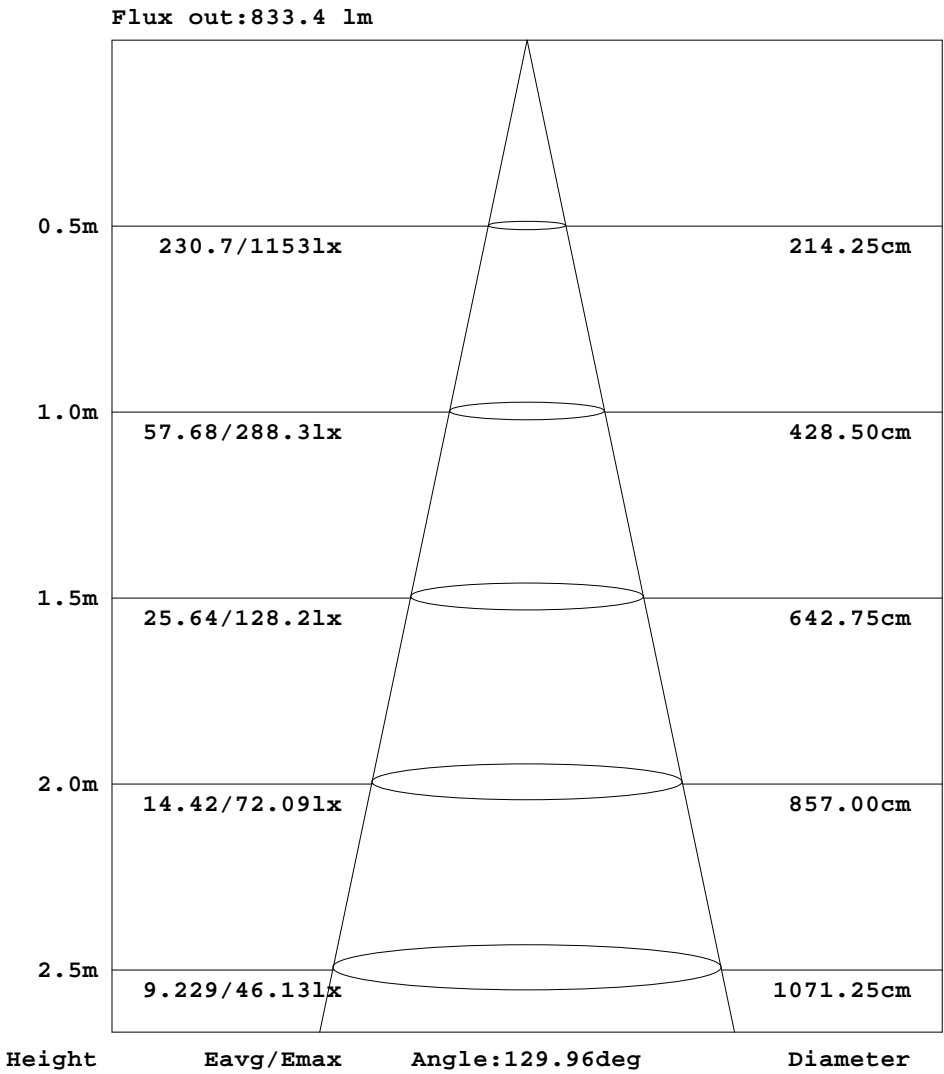
ISOCANDELA DIAGRAM



C Range: 0 - 360DEG  
C Interval: 30.0DEG  
Test Speed: HIGH  
Temperature: 25.3DEG  
Operators: Killua  
Test Date: 2015-03-10

g Range: 0 - 180DEG  
g Interval: 1.0DEG  
Test System: EVERFINE GO-R3000(2M2D) SYSTEM V1.0.203  
Humidity: 65.0%  
Test Distance: 2.500m [K=1.3016]  
Remarks: LAMP: SMD 3014 3000K 1438mm 16W ww  
LANS: WHITE PC  
30minutes warm-up

AAI Figure



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

C Range: 0 - 360DEG  
C Interval: 30.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:Killua  
Test Date:2015-03-10

g Range: 0 - 180DEG  
g Interval: 1.0DEG  
Test System:EVERFINE GO-R3000(2M2D) SYSTEM V1.0.203  
Humidity:65.0%  
Test Distance:2.500m [K=1.3016]  
Remarks: LAMP:SMD 3014 3000K 1438mm 16W ww  
LANS:WHITE PC  
30minutes warm-up

## LUMINOUS DISTRIBUTION INTENSITY DATA

Table--1

UNIT: cd

| C( DEG)<br>g (DEG) | 0    | 30   | 60   | 90   | 120  | 150  | 180  | 210  | 240  | 270  | 300  | 330  |  |  |  |  |  |  |
|--------------------|------|------|------|------|------|------|------|------|------|------|------|------|--|--|--|--|--|--|
| 0                  | 288  | 288  | 288  | 288  | 288  | 288  | 288  | 288  | 288  | 288  | 288  | 288  |  |  |  |  |  |  |
| 5                  | 288  | 287  | 288  | 288  | 289  | 288  | 287  | 286  | 286  | 286  | 287  | 287  |  |  |  |  |  |  |
| 10                 | 286  | 286  | 286  | 287  | 287  | 286  | 285  | 284  | 283  | 284  | 285  | 285  |  |  |  |  |  |  |
| 15                 | 283  | 283  | 285  | 285  | 285  | 283  | 281  | 281  | 280  | 281  | 281  | 281  |  |  |  |  |  |  |
| 20                 | 279  | 279  | 282  | 282  | 281  | 278  | 276  | 276  | 274  | 275  | 276  | 277  |  |  |  |  |  |  |
| 25                 | 273  | 274  | 277  | 277  | 277  | 273  | 266  | 269  | 268  | 270  | 270  | 271  |  |  |  |  |  |  |
| 30                 | 260  | 268  | 272  | 272  | 271  | 263  | 251  | 258  | 260  | 262  | 262  | 264  |  |  |  |  |  |  |
| 35                 | 244  | 255  | 265  | 265  | 264  | 249  | 234  | 243  | 252  | 253  | 254  | 252  |  |  |  |  |  |  |
| 40                 | 228  | 241  | 256  | 256  | 255  | 236  | 218  | 228  | 242  | 243  | 244  | 237  |  |  |  |  |  |  |
| 45                 | 211  | 227  | 247  | 246  | 246  | 221  | 202  | 213  | 230  | 232  | 233  | 222  |  |  |  |  |  |  |
| 50                 | 195  | 212  | 237  | 236  | 235  | 207  | 186  | 197  | 218  | 219  | 220  | 207  |  |  |  |  |  |  |
| 55                 | 178  | 198  | 226  | 224  | 223  | 193  | 169  | 182  | 206  | 207  | 208  | 192  |  |  |  |  |  |  |
| 60                 | 162  | 184  | 213  | 211  | 211  | 179  | 153  | 167  | 192  | 193  | 195  | 176  |  |  |  |  |  |  |
| 65                 | 147  | 170  | 200  | 199  | 198  | 165  | 137  | 152  | 178  | 180  | 181  | 162  |  |  |  |  |  |  |
| 70                 | 123  | 156  | 187  | 185  | 184  | 151  | 122  | 138  | 165  | 167  | 167  | 147  |  |  |  |  |  |  |
| 75                 | 89.3 | 143  | 173  | 172  | 171  | 137  | 96.5 | 124  | 151  | 153  | 153  | 134  |  |  |  |  |  |  |
| 80                 | 57.3 | 129  | 159  | 158  | 157  | 124  | 64.9 | 111  | 137  | 140  | 139  | 120  |  |  |  |  |  |  |
| 85                 | 27.8 | 110  | 145  | 145  | 143  | 111  | 35.0 | 97.6 | 124  | 127  | 126  | 107  |  |  |  |  |  |  |
| 90                 | 6.00 | 92.6 | 131  | 132  | 129  | 98.5 | 11.0 | 85.2 | 111  | 114  | 113  | 93.0 |  |  |  |  |  |  |
| 95                 | 0.46 | 77.2 | 117  | 118  | 115  | 85.7 | 3.30 | 72.6 | 98.8 | 103  | 101  | 78.4 |  |  |  |  |  |  |
| 100                | 0.02 | 64.5 | 103  | 105  | 101  | 71.6 | 3.38 | 61.3 | 87.4 | 92.5 | 89.6 | 66.1 |  |  |  |  |  |  |
| 105                | 0.52 | 55.5 | 90.5 | 92.7 | 88.8 | 61.7 | 2.64 | 52.1 | 77.2 | 82.6 | 78.9 | 56.7 |  |  |  |  |  |  |
| 110                | 0.36 | 46.8 | 79.3 | 81.7 | 77.6 | 53.5 | 2.17 | 41.4 | 67.8 | 73.3 | 69.8 | 45.7 |  |  |  |  |  |  |
| 115                | 0.11 | 29.8 | 70.3 | 73.4 | 69.5 | 36.4 | 2.13 | 24.9 | 59.8 | 65.3 | 61.1 | 28.8 |  |  |  |  |  |  |
| 120                | 0.62 | 24.1 | 61.8 | 65.5 | 61.0 | 25.0 | 1.87 | 19.5 | 47.0 | 57.4 | 48.6 | 23.4 |  |  |  |  |  |  |
| 125                | 0.15 | 20.2 | 45.1 | 56.2 | 46.8 | 20.2 | 1.25 | 15.1 | 25.4 | 42.0 | 26.5 | 18.0 |  |  |  |  |  |  |
| 130                | 0.33 | 15.8 | 24.5 | 35.6 | 25.0 | 16.8 | 1.21 | 10.7 | 18.1 | 21.4 | 18.7 | 13.9 |  |  |  |  |  |  |
| 135                | 0.15 | 12.5 | 19.2 | 19.6 | 18.7 | 13.0 | 0.40 | 5.27 | 14.9 | 15.9 | 15.4 | 9.97 |  |  |  |  |  |  |
| 140                | 0.02 | 9.43 | 15.7 | 16.4 | 15.9 | 10.1 | 0.23 | 2.46 | 11.8 | 13.4 | 12.4 | 6.13 |  |  |  |  |  |  |
| 145                | 0.25 | 6.75 | 13.0 | 13.5 | 12.6 | 7.78 | 0.03 | 1.93 | 9.15 | 11.1 | 9.99 | 3.84 |  |  |  |  |  |  |
| 150                | 0.13 | 4.88 | 10.4 | 11.1 | 10.3 | 5.05 | 0.19 | 1.49 | 5.16 | 8.37 | 6.53 | 2.51 |  |  |  |  |  |  |
| 155                | 0.15 | 2.57 | 7.96 | 8.66 | 8.16 | 3.19 | 0.21 | 0.82 | 2.80 | 4.85 | 3.80 | 1.33 |  |  |  |  |  |  |
| 160                | 0.19 | 1.60 | 5.49 | 6.77 | 5.66 | 1.93 | 0.53 | 0.19 | 1.83 | 2.76 | 2.43 | 0.51 |  |  |  |  |  |  |
| 165                | 0.07 | 0.20 | 2.94 | 4.00 | 3.01 | 0.74 | 0.25 | 0.50 | 1.05 | 2.08 | 0.88 | 0.61 |  |  |  |  |  |  |
| 170                | 0.38 | 0.09 | 0.39 | 1.40 | 0.75 | 0.00 | 0.67 | 0.73 | 0.82 | 0.77 | 0.60 | 0.42 |  |  |  |  |  |  |
| 175                | 0.23 | 0.39 | 0.50 | 0.42 | 0.24 | 0.37 | 0.36 | 0.64 | 0.29 | 0.45 | 0.47 | 0.33 |  |  |  |  |  |  |
| 180                | 0.47 | 0.51 | 0.22 | 0.00 | 0.60 | 0.31 | 0.00 | 0.18 | 0.00 | 0.33 | 0.72 | 0.37 |  |  |  |  |  |  |

C Range: 0 - 360DEG  
 C Interval: 30.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:Killua  
 Test Date:2015-03-10

g Range: 0 - 180DEG  
 g Interval: 1.0DEG  
 Test System:EVERFINE GO-R3000(2M2D) SYSTEM V1.0.203  
 Humidity:65.0%  
 Test Distance:2.500m [K=1.3016]  
 Remarks: LAMP:SMD 3014 3000K 1438mm 16W ww  
 LANS:WHITE PC  
 30minutes warm-up

## Photometric Data Table [cd]

| G/C   | 0.0    | 30.0   | 60.0   | 90.0   | 120.0  | 150.0  | 180.0  | 210.0  | 240.0  | 270.0  |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0.0   | 287.8  | 287.9  | 287.7  | 288.0  | 288.2  | 288.3  | 287.8  | 287.9  | 287.7  | 288.0  |
| 3.0   | 288.0  | 287.9  | 287.7  | 288.2  | 288.4  | 287.9  | 287.6  | 286.9  | 286.7  | 287.0  |
| 6.0   | 287.4  | 287.3  | 287.5  | 287.8  | 288.2  | 287.4  | 286.7  | 285.7  | 285.0  | 286.0  |
| 9.0   | 286.4  | 286.5  | 287.1  | 287.3  | 287.7  | 286.4  | 284.9  | 284.2  | 284.0  | 284.5  |
| 12.0  | 285.0  | 285.1  | 286.3  | 286.7  | 286.2  | 284.9  | 283.4  | 282.5  | 281.8  | 282.8  |
| 15.0  | 283.1  | 283.4  | 285.0  | 285.2  | 284.7  | 282.7  | 281.1  | 280.6  | 279.5  | 280.6  |
| 18.0  | 280.4  | 281.5  | 283.1  | 283.3  | 282.8  | 280.0  | 278.4  | 277.1  | 276.3  | 277.9  |
| 21.0  | 277.3  | 278.9  | 280.3  | 280.7  | 280.2  | 277.7  | 275.0  | 274.1  | 273.0  | 274.7  |
| 24.0  | 273.9  | 275.2  | 278.2  | 278.1  | 277.5  | 274.5  | 269.2  | 270.5  | 269.3  | 270.6  |
| 27.0  | 268.7  | 272.0  | 275.0  | 275.2  | 274.3  | 269.9  | 260.4  | 265.8  | 265.3  | 266.5  |
| 30.0  | 259.9  | 267.6  | 271.8  | 271.5  | 270.5  | 263.0  | 251.0  | 258.4  | 260.1  | 262.0  |
| 33.0  | 250.5  | 260.8  | 267.5  | 267.2  | 266.3  | 255.3  | 241.1  | 249.2  | 255.2  | 256.8  |
| 36.0  | 240.6  | 252.2  | 262.8  | 262.7  | 261.9  | 246.6  | 231.2  | 240.4  | 249.7  | 250.8  |
| 39.0  | 230.7  | 243.9  | 257.9  | 257.7  | 257.1  | 238.2  | 221.6  | 231.2  | 243.8  | 244.9  |
| 42.0  | 221.0  | 235.9  | 253.2  | 252.4  | 251.5  | 229.7  | 211.8  | 221.9  | 237.5  | 238.7  |
| 45.0  | 211.0  | 226.6  | 247.2  | 246.4  | 245.6  | 221.1  | 202.1  | 212.5  | 230.4  | 231.7  |
| 48.0  | 201.1  | 217.6  | 241.3  | 239.6  | 239.3  | 212.8  | 191.8  | 203.4  | 223.3  | 223.9  |
| 51.0  | 191.0  | 209.1  | 234.4  | 233.3  | 232.6  | 203.8  | 182.0  | 194.5  | 215.8  | 216.9  |
| 54.0  | 181.7  | 200.8  | 228.2  | 226.4  | 226.0  | 195.5  | 172.8  | 185.0  | 208.3  | 209.4  |
| 57.0  | 172.0  | 192.4  | 220.6  | 218.8  | 218.6  | 187.0  | 162.6  | 175.9  | 200.4  | 201.5  |
| 60.0  | 162.0  | 183.8  | 212.8  | 211.5  | 211.0  | 178.7  | 153.0  | 166.9  | 192.2  | 193.5  |
| 63.0  | 152.6  | 175.1  | 205.0  | 203.7  | 203.1  | 170.4  | 143.3  | 158.4  | 183.9  | 185.5  |
| 66.0  | 143.1  | 167.0  | 197.6  | 196.3  | 194.9  | 161.9  | 134.0  | 149.5  | 175.5  | 177.3  |
| 69.0  | 129.4  | 158.9  | 189.3  | 188.2  | 186.8  | 153.6  | 124.9  | 140.3  | 167.1  | 169.3  |
| 72.0  | 109.8  | 150.6  | 181.0  | 180.1  | 178.8  | 145.4  | 115.4  | 132.5  | 158.4  | 161.0  |
| 75.0  | 89.28  | 142.7  | 172.7  | 172.2  | 170.6  | 137.3  | 96.53  | 124.2  | 150.5  | 153.0  |
| 78.0  | 69.74  | 134.8  | 164.5  | 164.1  | 161.8  | 129.4  | 77.03  | 115.9  | 142.5  | 145.0  |
| 81.0  | 50.99  | 125.6  | 156.1  | 155.9  | 153.4  | 121.3  | 58.60  | 107.8  | 134.1  | 137.4  |
| 84.0  | 33.14  | 113.8  | 147.9  | 146.8  | 145.5  | 113.5  | 40.83  | 100.1  | 126.4  | 129.6  |
| 87.0  | 17.82  | 102.7  | 139.1  | 139.6  | 136.8  | 106.2  | 25.02  | 92.97  | 118.7  | 121.8  |
| 90.0  | 5.997  | 92.57  | 131.0  | 131.7  | 128.6  | 98.46  | 10.98  | 85.23  | 111.1  | 114.2  |
| 93.0  | 0.8586 | 83.18  | 122.7  | 123.5  | 120.8  | 90.30  | 2.754  | 77.59  | 103.4  | 107.6  |
| 96.0  | 0.6231 | 74.75  | 114.3  | 115.3  | 112.8  | 82.49  | 3.656  | 70.19  | 96.15  | 101.1  |
| 99.0  | 0.2413 | 67.13  | 105.8  | 107.2  | 104.3  | 74.67  | 3.169  | 63.63  | 89.68  | 94.58  |
| 102.0 | 0.2984 | 60.47  | 97.99  | 99.72  | 96.21  | 66.88  | 2.854  | 57.10  | 83.46  | 88.30  |
| 105.0 | 0.5180 | 55.49  | 90.51  | 92.67  | 88.79  | 61.66  | 2.636  | 52.14  | 77.24  | 82.64  |
| 108.0 | 0.5570 | 51.01  | 83.62  | 85.63  | 81.58  | 56.62  | 2.367  | 47.11  | 71.41  | 77.12  |
| 111.0 | 0.0188 | 44.14  | 77.30  | 79.59  | 75.68  | 51.21  | 2.307  | 37.14  | 65.95  | 71.66  |
| 114.0 | 0.0669 | 32.59  | 71.90  | 74.67  | 71.11  | 40.60  | 2.105  | 26.96  | 61.09  | 66.71  |
| 117.0 | 0.0452 | 26.29  | 66.54  | 70.11  | 66.39  | 29.60  | 1.934  | 22.12  | 55.69  | 62.04  |
| 120.0 | 0.6154 | 24.07  | 61.77  | 65.46  | 60.99  | 25.02  | 1.872  | 19.48  | 47.00  | 57.45  |
| 123.0 | 0.2804 | 21.99  | 53.33  | 60.29  | 53.98  | 22.06  | 1.640  | 16.62  | 32.99  | 50.20  |
| 126.0 | 0.1026 | 19.46  | 39.99  | 53.35  | 41.96  | 19.68  | 1.328  | 14.39  | 22.73  | 37.63  |
| 129.0 | 0.2094 | 16.45  | 27.45  | 41.13  | 28.45  | 17.34  | 1.447  | 11.71  | 18.54  | 24.38  |
| 132.0 | 0.0048 | 14.68  | 20.89  | 26.90  | 21.57  | 14.98  | 0.4910 | 8.364  | 16.62  | 18.11  |
| 135.0 | 0.1528 | 12.46  | 19.18  | 19.56  | 18.75  | 13.02  | 0.3959 | 5.268  | 14.86  | 15.89  |
| 138.0 | 0.1783 | 10.53  | 17.08  | 17.10  | 16.80  | 11.53  | 0.1635 | 3.596  | 13.35  | 14.34  |
| 141.0 | 0.3434 | 9.122  | 15.61  | 15.83  | 14.79  | 9.771  | 0.1942 | 2.259  | 11.69  | 12.76  |
| 144.0 | 0      | 7.124  | 13.56  | 14.41  | 13.40  | 7.950  | 0.0661 | 1.705  | 9.642  | 11.71  |
| 147.0 | 0.0028 | 5.911  | 12.06  | 12.54  | 12.12  | 6.483  | 0.1679 | 1.645  | 7.784  | 10.28  |
| 150.0 | 0.1311 | 4.883  | 10.42  | 11.14  | 10.27  | 5.054  | 0.1886 | 1.489  | 5.158  | 8.367  |
| 153.0 | 0.1127 | 3.656  | 8.770  | 9.866  | 8.922  | 4.436  | 0.1013 | 1.069  | 3.602  | 5.965  |
| 156.0 | 0.2481 | 2.438  | 7.279  | 8.474  | 7.656  | 2.930  | 0.1476 | 0.5513 | 2.408  | 4.529  |
| 159.0 | 0.0803 | 1.663  | 5.655  | 6.933  | 6.082  | 1.702  | 0.4496 | 0.1321 | 2.184  | 3.155  |
| 162.0 | 0.0575 | 0.9368 | 4.383  | 5.250  | 4.577  | 1.273  | 0.4530 | 0.4070 | 1.576  | 2.569  |
| 165.0 | 0.0706 | 0.2033 | 2.938  | 4.002  | 3.008  | 0.7364 | 0.2486 | 0.4994 | 1.053  | 2.076  |
| 168.0 | 0.1792 | 0.2170 | 1.815  | 2.224  | 2.499  | 0.3388 | 0.5643 | 0.6437 | 0.4880 | 0.9625 |
| 171.0 | 0.2309 | 0.1051 | 0.1957 | 0.5450 | 0.7778 | 0.0925 | 0.3075 | 0.2824 | 0.6261 | 0.6393 |
| 174.0 | 0.2293 | 0.1810 | 0.1503 | 0.3176 | 0.2677 | 0.1033 | 0.5381 | 0.1428 | 0.6988 | 0.7113 |
| 177.0 | 0.3674 | 0.1400 | 0.4290 | 0.3173 | 0.0728 | 0.1457 | 0.3986 | 0.3846 | 0.5934 | 0.0932 |
| 180.0 | 0.4686 | 0.5093 | 0.2202 | 0      | 0.5980 | 0.3115 | 0      | 0.1805 | 0.0000 | 0.3341 |

| G/C  | 300.0 | 330.0 |
|------|-------|-------|
| 0.0  | 288.2 | 288.3 |
| 3.0  | 287.9 | 287.9 |
| 6.0  | 286.9 | 286.9 |
| 9.0  | 285.2 | 285.8 |
| 12.0 | 283.0 | 284.0 |
| 15.0 | 281.1 | 281.5 |
| 18.0 | 278.2 | 279.1 |
| 21.0 | 275.1 | 276.4 |
| 24.0 | 271.2 | 272.4 |
| 27.0 | 266.9 | 268.5 |
| 30.0 | 262.5 | 264.0 |

C Range: 0 - 360DEG  
C Interval: 30.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:Killua  
Test Date:2015-03-10

g Range: 0 - 180DEG  
g Interval: 1.0DEG  
Test System:EVERFINE GO-R3000(2M2D) SYSTEM V1.0.203  
Humidity:65.0%  
Test Distance:2.500m [K=1.3016]  
Remarks: LAMP:SMD 3014 3000K 1438mm 16W ww  
LANS:WHITE PC  
30minutes warm-up

Photometric Data Table [cd]

|       |        |        |
|-------|--------|--------|
| 33.0  | 257.6  | 257.5  |
| 36.0  | 252.0  | 249.4  |
| 39.0  | 246.2  | 240.4  |
| 42.0  | 239.3  | 231.0  |
| 45.0  | 232.8  | 222.1  |
| 48.0  | 225.6  | 213.4  |
| 51.0  | 217.9  | 204.2  |
| 54.0  | 210.4  | 194.7  |
| 57.0  | 202.8  | 185.7  |
| 60.0  | 194.5  | 176.4  |
| 63.0  | 186.7  | 167.7  |
| 66.0  | 178.1  | 158.9  |
| 69.0  | 169.9  | 150.1  |
| 72.0  | 161.4  | 141.9  |
| 75.0  | 152.9  | 133.9  |
| 78.0  | 144.4  | 125.8  |
| 81.0  | 136.9  | 117.7  |
| 84.0  | 128.7  | 109.8  |
| 87.0  | 120.6  | 102.0  |
| 90.0  | 113.0  | 93.05  |
| 93.0  | 105.6  | 84.02  |
| 96.0  | 98.44  | 75.72  |
| 99.0  | 91.83  | 68.44  |
| 102.0 | 85.21  | 61.67  |
| 105.0 | 78.93  | 56.74  |
| 108.0 | 73.40  | 51.79  |
| 111.0 | 67.73  | 42.63  |
| 114.0 | 62.85  | 30.93  |
| 117.0 | 57.50  | 26.04  |
| 120.0 | 48.64  | 23.37  |
| 123.0 | 34.41  | 20.44  |
| 126.0 | 23.71  | 17.56  |
| 129.0 | 19.32  | 14.47  |
| 132.0 | 17.36  | 12.40  |
| 135.0 | 15.43  | 9.970  |
| 138.0 | 13.46  | 7.042  |
| 141.0 | 12.28  | 5.621  |
| 144.0 | 10.45  | 4.446  |
| 147.0 | 8.582  | 3.115  |
| 150.0 | 6.526  | 2.508  |
| 153.0 | 4.686  | 1.933  |
| 156.0 | 3.277  | 0.8150 |
| 159.0 | 2.664  | 0.4240 |
| 162.0 | 2.130  | 0.0728 |
| 165.0 | 0.8816 | 0.6097 |
| 168.0 | 0.7033 | 0.6443 |
| 171.0 | 0.9145 | 0.6274 |
| 174.0 | 0.4091 | 0.1655 |
| 177.0 | 0.7444 | 0.2880 |
| 180.0 | 0.7233 | 0.3690 |

C Range: 0 - 360DEG  
C Interval: 30.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:Killua  
Test Date:2015-03-10

g Range: 0 - 180DEG  
g Interval: 1.0DEG  
g Test System:EVERFINE GO-R3000(2M2D) SYSTEM V1.0.203  
Humidity:65.0%  
Test Distance:2.500m [K=1.3016]  
Remarks: LAMP:SMD 3014 3000K 1438mm 16W ww  
LANS:WHITE PC  
30minutes warm-up