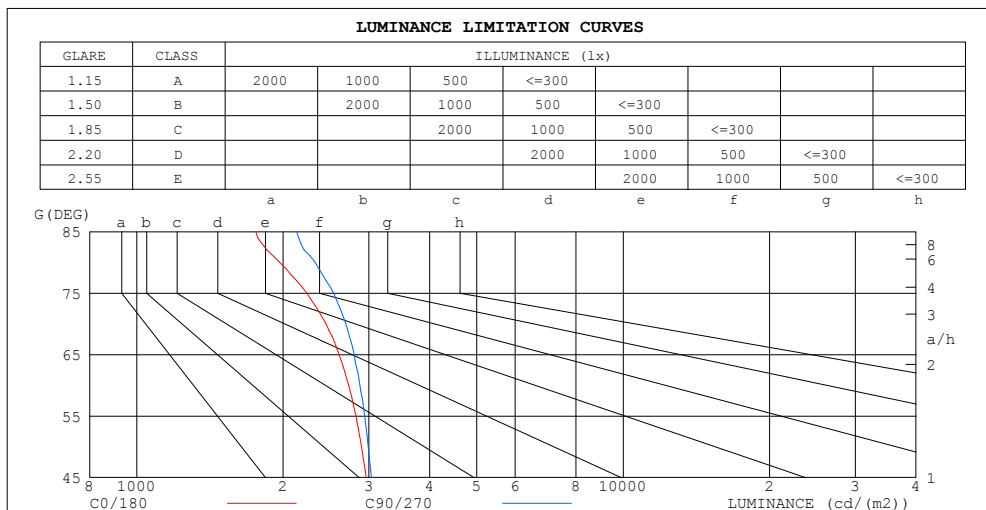




### ZONAL FLUX DIAGRAM AND LUMINANCE LIMITATION CURVES

#### ZONAL FLUX DIAGRAM:

| $\gamma$ | C0                    | C45    | C90    | C135   | C180   | C225   | C270   | C315   | $\gamma$ | $\Phi$ zone | $\Phi$ total | %lum, lamp |
|----------|-----------------------|--------|--------|--------|--------|--------|--------|--------|----------|-------------|--------------|------------|
| 10       | 52.11                 | 52.09  | 52.06  | 51.88  | 51.91  | 51.88  | 51.95  | 51.95  | 0- 10    | 5.008       | 5.008        | 3.22,3.22  |
| 20       | 49.13                 | 49.26  | 49.35  | 49.01  | 48.83  | 48.86  | 48.99  | 49.05  | 10- 20   | 14.32       | 19.33        | 12.4,12.4  |
| 30       | 44.39                 | 44.65  | 44.88  | 44.39  | 44.06  | 44.14  | 44.35  | 44.40  | 20- 30   | 21.63       | 40.95        | 26.3,26.3  |
| 40       | 38.14                 | 38.54  | 38.88  | 38.34  | 37.89  | 38.04  | 38.31  | 38.27  | 30- 40   | 25.97       | 66.92        | 43,43      |
| 50       | 30.72                 | 31.21  | 31.73  | 31.18  | 30.67  | 30.87  | 31.14  | 30.95  | 40- 50   | 26.84       | 93.76        | 60.3,60.3  |
| 60       | 22.49                 | 23.05  | 23.74  | 23.24  | 22.74  | 22.91  | 23.10  | 22.78  | 50- 60   | 24.23       | 118.0        | 75.9,75.9  |
| 70       | 13.82                 | 14.37  | 15.19  | 14.80  | 14.43  | 14.53  | 14.59  | 14.13  | 60- 70   | 18.56       | 136.6        | 87.8,87.8  |
| 80       | 5.637                 | 6.002  | 6.662  | 6.507  | 6.309  | 6.316  | 6.263  | 5.816  | 70- 80   | 10.80       | 147.4        | 94.7,94.7  |
| 90       | 0.7561                | 0.8847 | 1.428  | 1.133  | 0.8271 | 0.8647 | 1.040  | 0.7287 | 80- 90   | 3.284       | 150.6        | 96.8,96.8  |
| 100      | 0.5109                | 0.7816 | 1.217  | 0.8688 | 0.2866 | 0.5898 | 0.9626 | 0.5253 | 90-100   | 0.8188      | 151.5        | 97.4,97.4  |
| 110      | 0.5477                | 0.8217 | 1.086  | 0.8861 | 0.3770 | 0.6135 | 0.8685 | 0.5784 | 100-110  | 0.7533      | 152.2        | 97.9,97.9  |
| 120      | 0.6231                | 0.8619 | 1.022  | 0.9045 | 0.4725 | 0.6558 | 0.8378 | 0.6306 | 110-120  | 0.7319      | 152.9        | 98.3,98.3  |
| 130      | 0.6935                | 0.8921 | 1.003  | 0.9098 | 0.5730 | 0.7069 | 0.8314 | 0.6735 | 120-130  | 0.6921      | 153.6        | 98.8,98.8  |
| 140      | 0.7630                | 0.9122 | 0.9549 | 0.9139 | 0.6685 | 0.7529 | 0.8374 | 0.7388 | 130-140  | 0.6239      | 154.3        | 99.2,99.2  |
| 150      | 0.8391                | 0.9348 | 0.9549 | 0.9155 | 0.7591 | 0.8222 | 0.8393 | 0.7991 | 140-150  | 0.5273      | 154.8        | 99.5,99.5  |
| 160      | 0.8694                | 0.9474 | 0.9549 | 0.9388 | 0.8595 | 0.8745 | 0.8674 | 0.8543 | 150-160  | 0.4064      | 155.2        | 99.8,99.8  |
| 170      | 0.9204                | 0.9488 | 0.9549 | 0.9520 | 0.9088 | 0.9040 | 0.9115 | 0.9045 | 160-170  | 0.2586      | 155.5        | 99.9,99.9  |
| 180      | 0.9298                | 0.9499 | 0.9549 | 0.9649 | 0.9247 | 0.9272 | 0.9298 | 0.9323 | 170-180  | 0.0890      | 155.5        | 100,100    |
| DEG      | LUMINOUS INTENSITY:cd |        |        |        |        |        |        |        |          | UNIT:lm     |              |            |



| LUMINANCE cd/(m2) |        |         |
|-------------------|--------|---------|
| G (DEG)           | C0/180 | C90/270 |
| 85                | 1759   | 2131    |
| 80                | 1967   | 2325    |
| 75                | 2236   | 2539    |
| 70                | 2449   | 2691    |
| 65                | 2607   | 2797    |
| 60                | 2727   | 2877    |
| 55                | 2822   | 2940    |
| 50                | 2897   | 2991    |
| 45                | 2964   | 3036    |

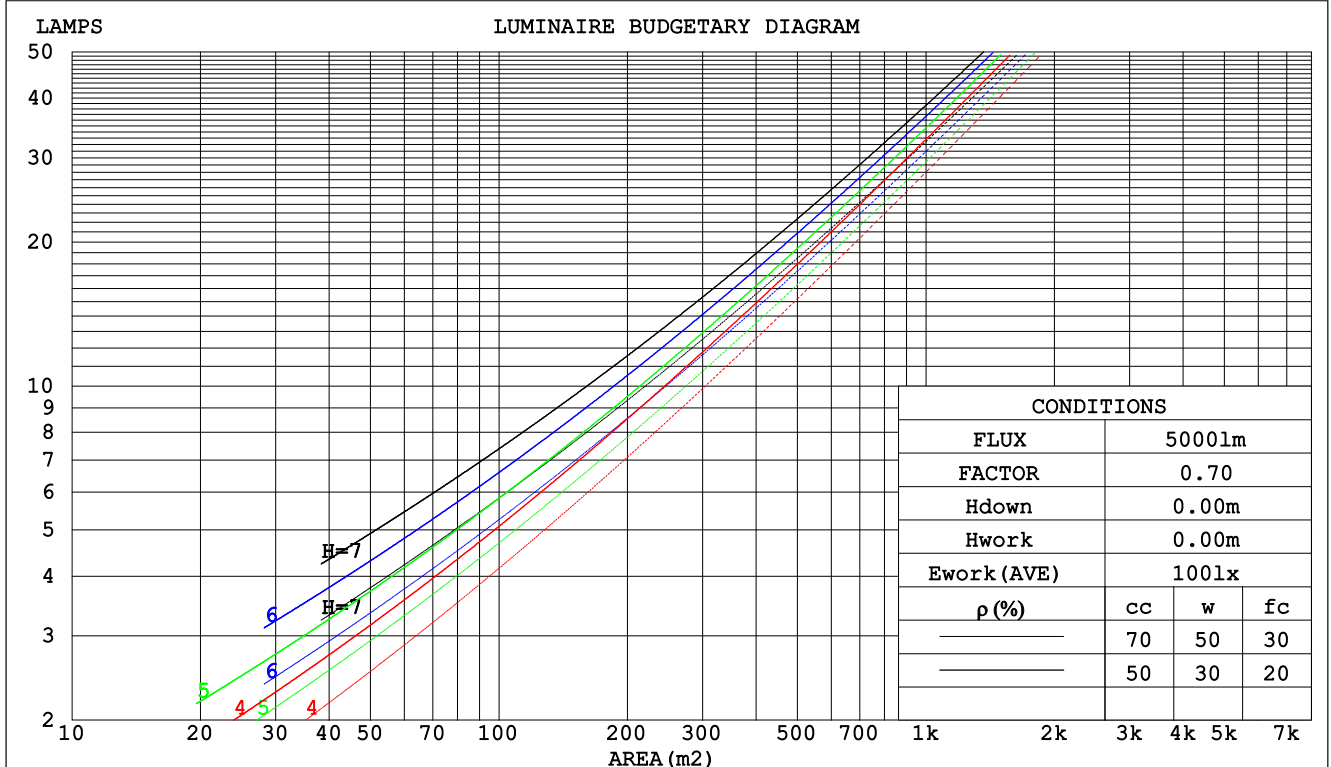
C Range: 0 - 360DEG  
C Interval: 30.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:HXJ  
Test Date:2022-05-12

$\gamma$  Range: 0 - 180DEG  
 $\gamma$  Interval: 1.0DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.269  
Humidity:65.0%  
Test Distance:9.200m [K=1.0000]  
Remarks:

## CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

|  |               |                     |
|--|---------------|---------------------|
| Test:U:24.00V I:0.1895A P:4.548W PF:1.000 Lamp Flux:155.539x1 lm |               |                     |
| NAME: SF15-24V-5050-56-SPI4-RGBW- (5000K) -W                     | TYPE:PVC      | WEIGHT:             |
| DIM.: 21mm*11.5mm  | SPEC.:        | SERIAL No.:20220512 |
| MFR.: OLYMPIA  | SUR.:1*0.0165 | PROTECTION ANGLE:   |

| $\rho_{cc}$ | 80%                   |      |      | 70%  |      |      | 50%                             |      |      | 30%  |      |      | 10% |     |     | 0   |
|-------------|-----------------------|------|------|------|------|------|---------------------------------|------|------|------|------|------|-----|-----|-----|-----|
| $\rho_w$    | 50%                   | 30%  | 10%  | 50%  | 30%  | 10%  | 50%                             | 30%  | 10%  | 50%  | 30%  | 10%  | 50% | 30% | 10% | 0   |
| $\rho_{fc}$ | 20%                   |      |      | 20%  |      |      | 20%                             |      |      | 20%  |      |      | 20% |     |     | 0   |
| RCR         | RCR:Room Cavity Ratio |      |      |      |      |      | Coefficients of Utilization(CU) |      |      |      |      |      |     |     |     |     |
| 0.0         | 1.18                  | 1.18 | 1.18 | 1.15 | 1.15 | 1.15 | 1.09                            | 1.09 | 1.09 | 1.04 | 1.04 | 1.04 | .99 | .99 | .99 | .97 |
| 1.0         | 1.03                  | .99  | .95  | 1.00 | .96  | .93  | .96                             | .92  | .89  | .91  | .89  | .86  | .87 | .85 | .83 | .81 |
| 2.0         | .90                   | .83  | .77  | .87  | .81  | .76  | .83                             | .78  | .74  | .80  | .75  | .71  | .76 | .73 | .69 | .67 |
| 3.0         | .79                   | .70  | .64  | .77  | .69  | .63  | .73                             | .67  | .62  | .70  | .65  | .60  | .67 | .63 | .59 | .56 |
| 4.0         | .70                   | .61  | .54  | .68  | .60  | .53  | .65                             | .58  | .52  | .62  | .56  | .51  | .60 | .55 | .50 | .48 |
| 5.0         | .62                   | .53  | .46  | .61  | .52  | .46  | .58                             | .51  | .45  | .56  | .50  | .44  | .54 | .48 | .44 | .41 |
| 6.0         | .56                   | .47  | .41  | .55  | .46  | .40  | .53                             | .45  | .40  | .51  | .44  | .39  | .49 | .43 | .38 | .36 |
| 7.0         | .51                   | .42  | .36  | .50  | .41  | .35  | .48                             | .40  | .35  | .46  | .40  | .35  | .45 | .39 | .34 | .32 |
| 8.0         | .46                   | .38  | .32  | .45  | .37  | .32  | .44                             | .36  | .31  | .42  | .36  | .31  | .41 | .35 | .31 | .29 |
| 9.0         | .42                   | .34  | .29  | .42  | .34  | .28  | .40                             | .33  | .28  | .39  | .32  | .28  | .38 | .32 | .28 | .26 |
| 10.0        | .39                   | .31  | .26  | .38  | .31  | .26  | .37                             | .30  | .26  | .36  | .30  | .25  | .35 | .29 | .25 | .23 |



C Range: 0 - 360DEG  
C Interval: 30.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:HXJ  
Test Date:2022-05-12

$\gamma$  Range: 0 - 180DEG  
 $\gamma$  Interval: 1.0DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.269  
Humidity:65.0%  
Test Distance:9.200m [K=1.0000]  
Remarks:



### Uncorrected UGR Table

|  |                  |      |      |      |      |                |      |                     |      |      |
|--|------------------|------|------|------|------|----------------|------|---------------------|------|------|
| Test:U:24.00V I:0.1895A P:4.548W PF:1.000 Lamp Flux:155.539x1 lm |                  |      |      |      |      |                |      |                     |      |      |
| NAME: SF15-24V-5050-56-SPI4-RGBW- (5000K) -W                     |                  |      |      |      |      | TYPE:PVC       |      | WEIGHT:             |      |      |
| DIM.: 21mm*11.5mm  |                  |      |      |      |      | SPEC.:         |      | SERIAL No.:20220512 |      |      |
| MFR.: OLYMPIA  |                  |      |      |      |      | SUR.:1*0.0165  |      | PROTECTION ANGLE:   |      |      |
| ceiling/cavity   | 0.7              | 0.7  | 0.5  | 0.5  | 0.3  | 0.7            | 0.7  | 0.5                 | 0.5  | 0.3  |
| walls  | 0.5              | 0.3  | 0.5  | 0.3  | 0.3  | 0.5            | 0.3  | 0.5                 | 0.3  | 0.3  |
| working plane  | 0.2              | 0.2  | 0.2  | 0.2  | 0.2  | 0.2            | 0.2  | 0.2                 | 0.2  | 0.2  |
| Room dimensions  | Viewed crosswise |      |      |      |      | Viewed endwise |      |                     |      |      |
| x = 2H y = 2H  | 16.3             | 17.8 | 16.6 | 18.0 | 18.3 | 16.5           | 17.9 | 16.8                | 18.2 | 18.5 |
| 3H   | 17.8             | 19.1 | 18.1 | 19.4 | 19.7 | 18.0           | 19.4 | 18.4                | 19.7 | 20.0 |
| 4H   | 18.3             | 19.6 | 18.7 | 19.9 | 20.3 | 18.7           | 20.0 | 19.0                | 20.3 | 20.6 |
| 6H   | 18.7             | 19.9 | 19.1 | 20.3 | 20.6 | 19.1           | 20.3 | 19.5                | 20.7 | 21.0 |
| 8H   | 18.8             | 20.0 | 19.2 | 20.3 | 20.7 | 19.3           | 20.5 | 19.7                | 20.8 | 21.2 |
| 12H  | 18.9             | 20.0 | 19.3 | 20.4 | 20.8 | 19.4           | 20.5 | 19.8                | 20.9 | 21.2 |
| 4H 2H  | 16.9             | 18.2 | 17.3 | 18.5 | 18.8 | 17.0           | 18.3 | 17.4                | 18.6 | 19.0 |
| 3H   | 18.6             | 19.7 | 19.0 | 20.0 | 20.4 | 18.8           | 19.9 | 19.2                | 20.3 | 20.6 |
| 4H   | 19.2             | 20.3 | 19.7 | 20.7 | 21.1 | 19.5           | 20.6 | 19.9                | 20.9 | 21.3 |
| 6H   | 19.8             | 20.7 | 20.2 | 21.1 | 21.5 | 20.1           | 21.0 | 20.6                | 21.4 | 21.9 |
| 8H   | 19.9             | 20.8 | 20.4 | 21.2 | 21.7 | 20.3           | 21.2 | 20.8                | 21.6 | 22.1 |
| 12H  | 20.0             | 20.8 | 20.5 | 21.3 | 21.7 | 20.5           | 21.3 | 20.9                | 21.7 | 22.2 |
| 8H 4H  | 19.5             | 20.4 | 20.0 | 20.8 | 21.2 | 19.8           | 20.6 | 20.2                | 21.0 | 21.5 |
| 6H   | 20.2             | 20.9 | 20.7 | 21.3 | 21.8 | 20.5           | 21.2 | 21.0                | 21.7 | 22.2 |
| 8H   | 20.4             | 21.1 | 20.9 | 21.5 | 22.1 | 20.8           | 21.4 | 21.3                | 21.9 | 22.4 |
| 12H  | 20.6             | 21.2 | 21.1 | 21.7 | 22.2 | 21.0           | 21.5 | 21.5                | 22.1 | 22.6 |
| 12H 4H   | 19.5             | 20.3 | 20.0 | 20.8 | 21.2 | 19.8           | 20.5 | 20.2                | 21.0 | 21.5 |
| 6H   | 20.2             | 20.9 | 20.7 | 21.3 | 21.9 | 20.5           | 21.2 | 21.0                | 21.6 | 22.2 |
| 8H   | 20.5             | 21.1 | 21.0 | 21.6 | 22.1 | 20.9           | 21.4 | 21.4                | 21.9 | 22.4 |
| Variations with the observer position at spacings:               |                  |      |      |      |      |                |      |                     |      |      |
| S = 1.0H   | + 0.2 / - 0.2    |      |      |      |      | + 0.1 / - 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 155.5 lm Total Lamp Luminous Flux. (8log(F/F0) = -6.5)

C Range: 0 - 360DEG  
C Interval: 30.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:HXJ  
Test Date:2022-05-12

γ Range: 0 - 180DEG  
γ Interval: 1.0DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.269  
Humidity:65.0%  
Test Distance:9.200m [K=1.0000]  
Remarks:

## UTILIZATION FACTORS TABLE

|  |               |                     |
|--|---------------|---------------------|
| Test:U:24.00V I:0.1895A P:4.548W PF:1.000 Lamp Flux:155.539x1 lm |               |                     |
| NAME: SF15-24V-5050-56-SPI4-RGBW- (5000K) -W                     | TYPE:PVC      | WEIGHT:             |
| DIM.: 21mm*11.5mm  | SPEC.:        | SERIAL No.:20220512 |
| MFR.: OLYMPIA  | SUR.:1*0.0165 | PROTECTION ANGLE:   |

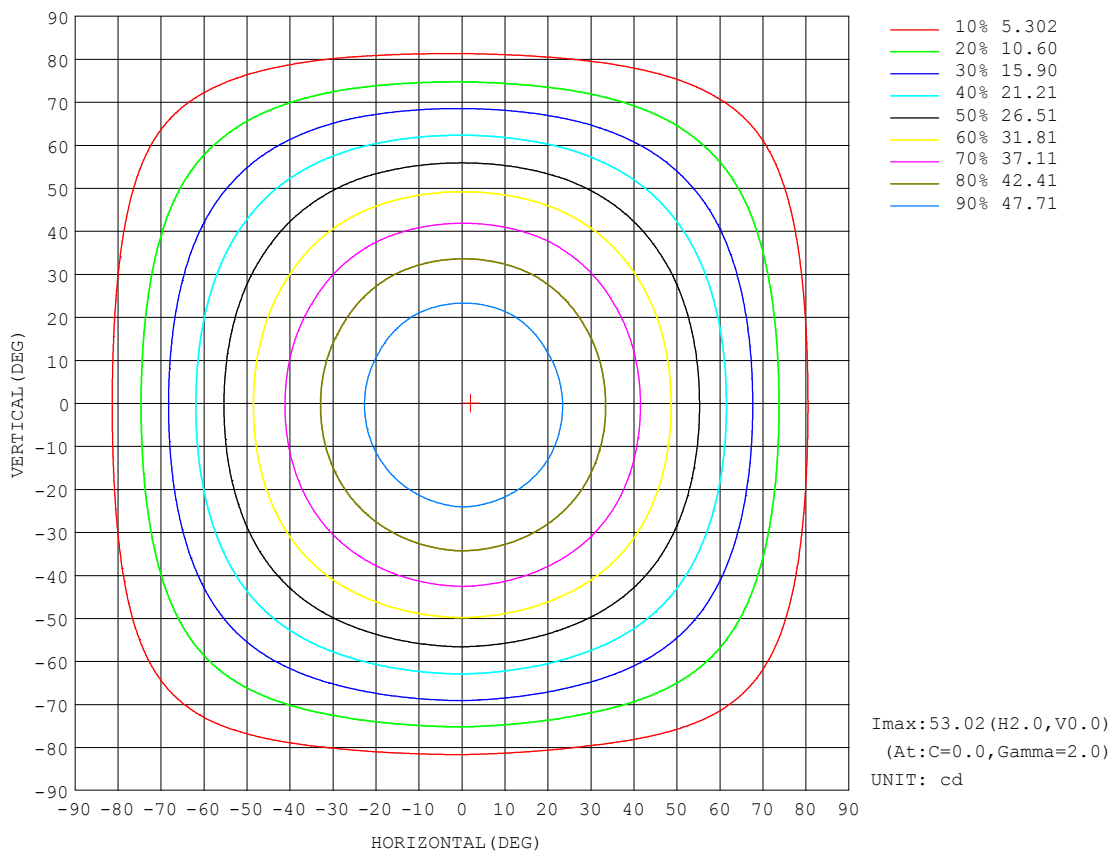
| REFLECTANCE                      |  |     |           |     |     |     |     |               |     |        |
|----------------------------------|--|-----|-----------|-----|-----|-----|-----|---------------|-----|--------|
| Ceiling                          | 0.8  | 0.8 | 0.8       | 0.7 | 0.7 | 0.7 | 0.5 | 0.5           | 0.5 | 0      |
| Walls                            | 0.7  | 0.5 | 0.3       | 0.7 | 0.5 | 0.3 | 0.7 | 0.5           | 0.3 | 0      |
| Working plane                    | 0.2  | 0.2 | 0.2       | 0.2 | 0.2 | 0.2 | 0.2 | 0.2           | 0.2 | 0      |
| ROOM INDEX                       | UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$ |     |           |     |     |     |     |               |     |        |
| $k = 0.60$                       | 57   | 45  | 38        | 56  | 45  | 38  | 54  | 44            | 38  | 31     |
| 0.80                             | 66   | 55  | 47        | 65  | 54  | 47  | 63  | 53            | 47  | 40     |
| 1.00                             | 75   | 64  | 56        | 73  | 63  | 56  | 71  | 64            | 55  | 48     |
| 1.25                             | 82   | 71  | 64        | 80  | 70  | 64  | 77  | 69            | 63  | 55     |
| 1.50                             | 87   | 77  | 70        | 85  | 76  | 69  | 82  | 74            | 68  | 60     |
| 2.00                             | 94   | 85  | 78        | 92  | 84  | 78  | 88  | 81            | 76  | 67     |
| 2.50                             | 98   | 90  | 84        | 95  | 88  | 83  | 91  | 85            | 80  | 71     |
| 3.00                             | 101  | 94  | 88        | 99  | 92  | 87  | 94  | 89            | 85  | 75     |
| 4.00                             | 105  | 99  | 95        | 103 | 97  | 93  | 98  | 93            | 90  | 80     |
| 5.00                             | 108  | 103 | 98        | 105 | 100 | 97  | 100 | 96            | 93  | 83     |
| 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:HXJ  
 Test Date:2022-05-12

$\gamma$  Range: 0 - 180DEG  
 $\gamma$  Interval: 1.0DEG  
 Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.269  
 Humidity:65.0%  
 Test Distance:9.200m [K=1.0000]  
 Remarks:

## ISOCANDELA DIAGRAM

|  |               |                     |
|--|---------------|---------------------|
| Test:U:24.00V I:0.1895A P:4.548W PF:1.000 Lamp Flux:155.539x1 lm |               |                     |
| NAME: SF15-24V-5050-56-SPI4-RGBW- (5000K) -W                     | TYPE:PVC      | WEIGHT:             |
| DIM.: 21mm*11.5mm  | SPEC.:        | SERIAL No.:20220512 |
| MFR.: OLYMPIA  | SUR.:1*0.0165 | PROTECTION ANGLE:   |

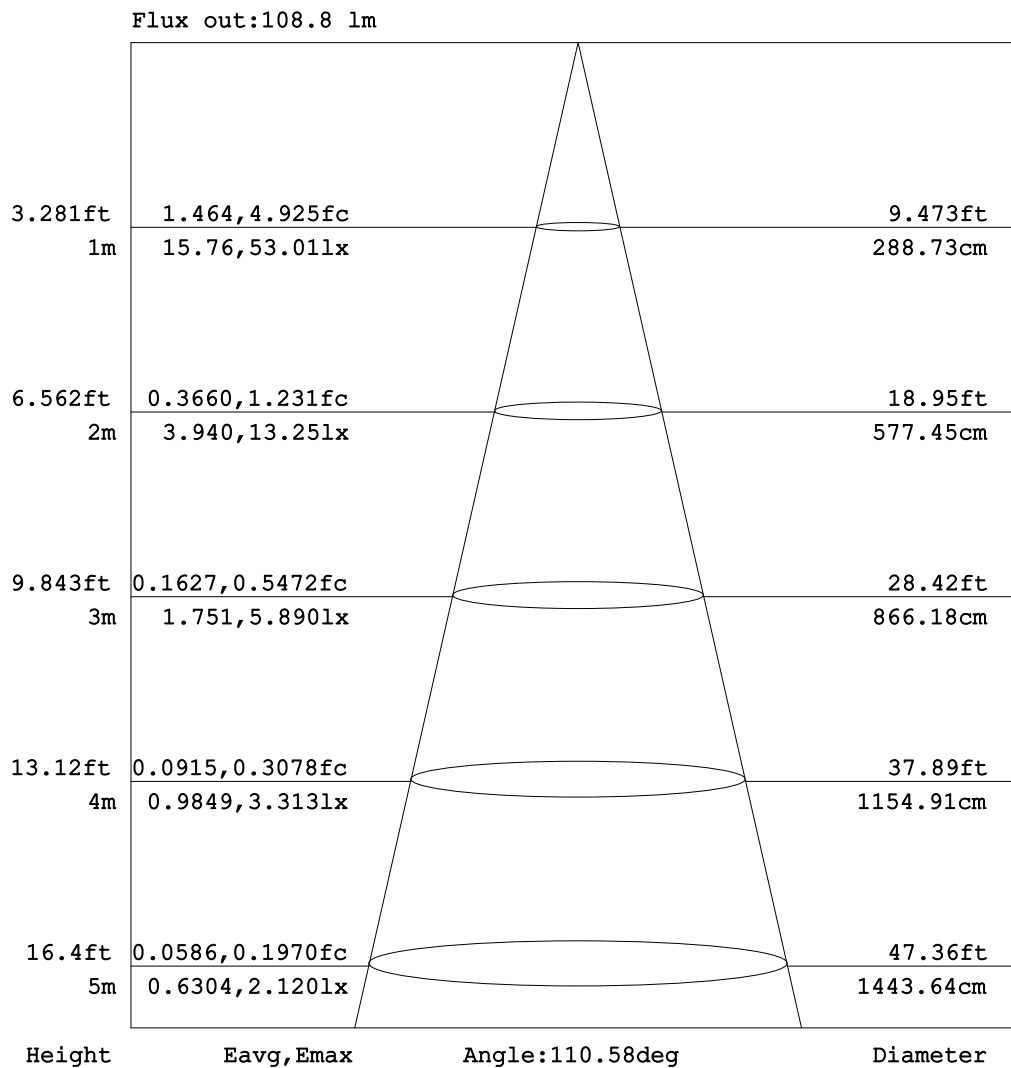


C Range: 0 - 360DEG  
C Interval: 30.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:HXJ  
Test Date:2022-05-12

$\gamma$  Range: 0 - 180DEG  
 $\gamma$  Interval: 1.0DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.269  
Humidity:65.0%  
Test Distance:9.200m [K=1.0000]  
Remarks:

## AAI Figure

|  |               |                     |
|--|---------------|---------------------|
| Test:U:24.00V I:0.1895A P:4.548W PF:1.000 Lamp Flux:155.539x1 lm |               |                     |
| NAME: SF15-24V-5050-56-SPI4-RGBW- (5000K) -W                     | TYPE:PVC      | WEIGHT:             |
| DIM.: 21mm*11.5mm  | SPEC.:        | SERIAL No.:20220512 |
| MFR.: OLYMPIA  | SUR.:1*0.0165 | PROTECTION ANGLE:   |



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

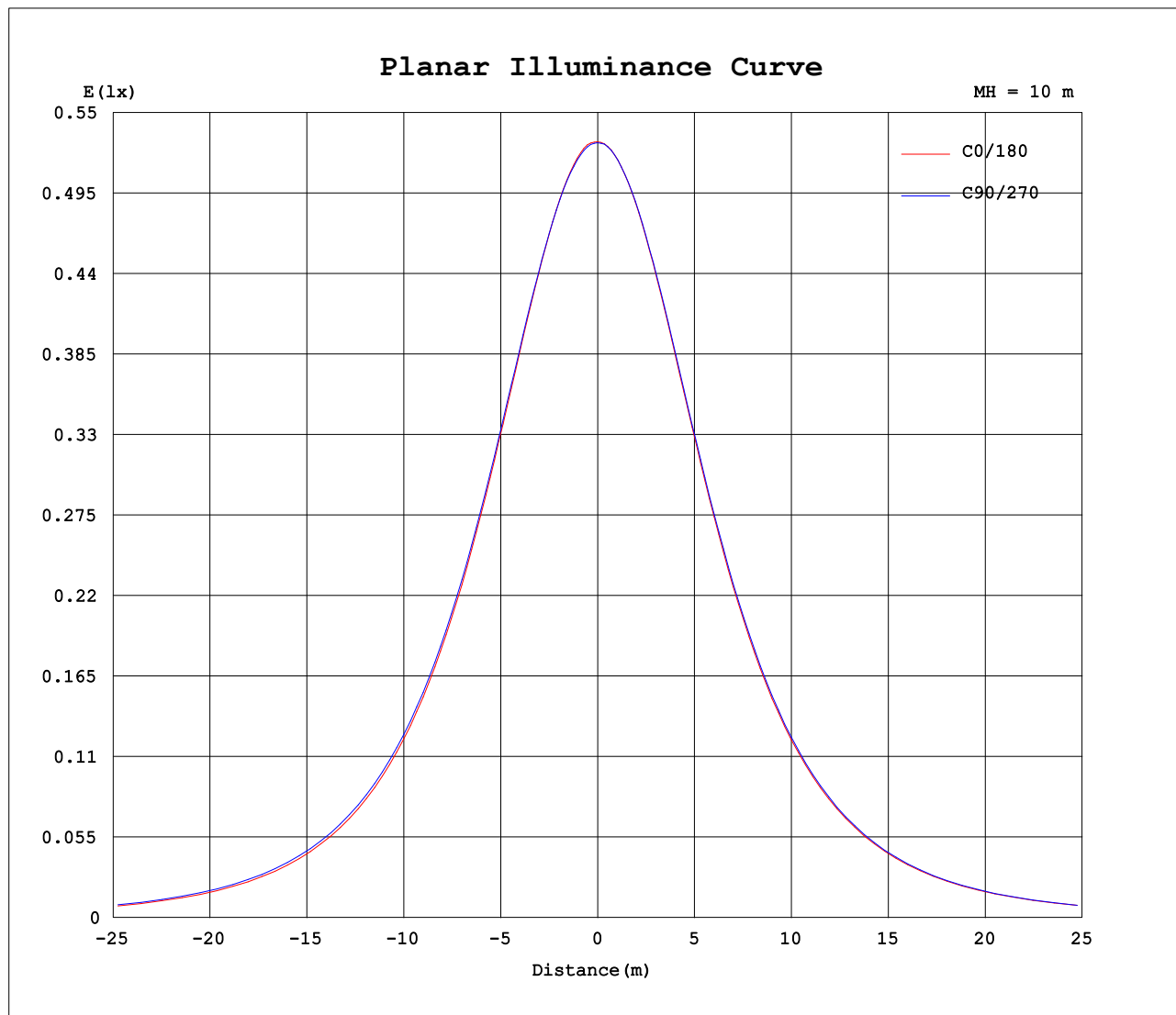
C Range: 0 - 360DEG  
C Interval: 30.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:HXJ  
Test Date:2022-05-12

γ Range: 0 - 180DEG  
γ Interval: 1.0DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.269  
Humidity:65.0%  
Test Distance:9.200m [K=1.0000]  
Remarks:





## Planar Illuminance Curve



C Range: 0 - 360DEG  
C Interval: 30.0DEG  
Test Speed: HIGH  
Temperature: 25.3DEG  
Operators: HXJ  
Test Date: 2022-05-12

$\gamma$  Range: 0 - 180DEG  
 $\gamma$  Interval: 1.0DEG  
Test System: EVERFINE GO-2000B\_V1 SYSTEM V2.0.269  
Humidity: 65.0%  
Test Distance: 9.200m [K=1.0000]  
Remarks:



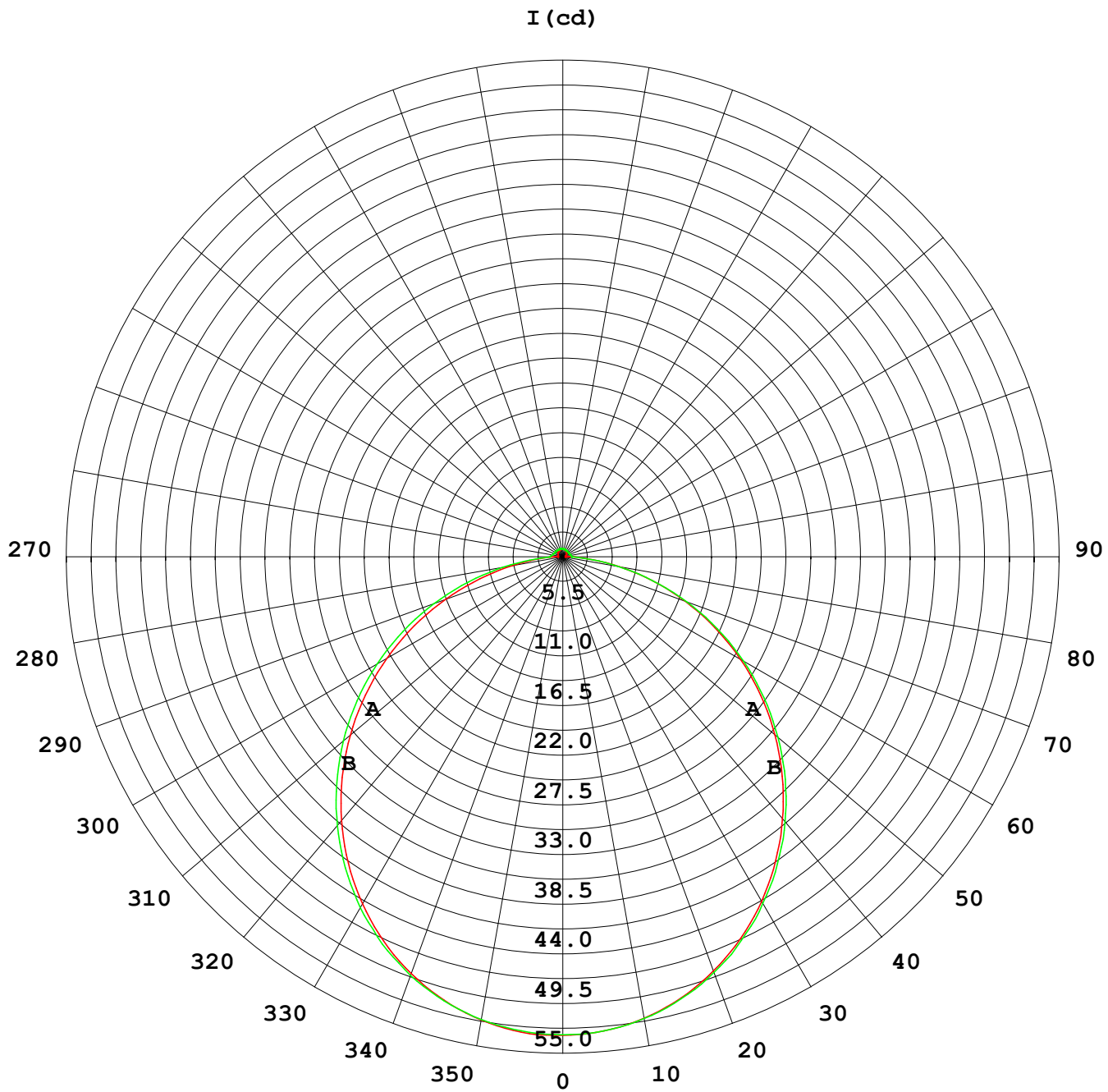


## Photometric Data Table [cd]

|       |        |        |
|-------|--------|--------|
| 33.0  | 42.84  | 42.59  |
| 36.0  | 41.01  | 40.75  |
| 39.0  | 39.08  | 38.75  |
| 42.0  | 37.08  | 36.68  |
| 45.0  | 34.95  | 34.54  |
| 48.0  | 32.64  | 32.29  |
| 51.0  | 30.39  | 29.94  |
| 54.0  | 28.00  | 27.54  |
| 57.0  | 25.49  | 25.05  |
| 60.0  | 23.07  | 22.49  |
| 63.0  | 20.44  | 19.97  |
| 66.0  | 17.86  | 17.36  |
| 69.0  | 15.29  | 14.74  |
| 72.0  | 12.62  | 12.14  |
| 75.0  | 10.05  | 9.577  |
| 78.0  | 7.575  | 7.093  |
| 81.0  | 5.224  | 4.901  |
| 84.0  | 3.159  | 2.976  |
| 87.0  | 1.539  | 1.486  |
| 90.0  | 0.8477 | 0.6098 |
| 93.0  | 0.6982 | 0.3772 |
| 96.0  | 0.6575 | 0.3771 |
| 99.0  | 0.6695 | 0.3770 |
| 102.0 | 0.6886 | 0.3770 |
| 105.0 | 0.6987 | 0.3870 |
| 108.0 | 0.7167 | 0.4020 |
| 111.0 | 0.7287 | 0.4472 |
| 114.0 | 0.7339 | 0.4532 |
| 117.0 | 0.7438 | 0.4723 |
| 120.0 | 0.7489 | 0.5123 |
| 123.0 | 0.7659 | 0.5126 |
| 126.0 | 0.7719 | 0.5327 |
| 129.0 | 0.7790 | 0.5628 |
| 132.0 | 0.7891 | 0.5945 |
| 135.0 | 0.7991 | 0.6147 |
| 138.0 | 0.8142 | 0.6382 |
| 141.0 | 0.8243 | 0.6783 |
| 144.0 | 0.8394 | 0.6834 |
| 147.0 | 0.8495 | 0.7085 |
| 150.0 | 0.8645 | 0.7336 |
| 153.0 | 0.8746 | 0.7588 |
| 156.0 | 0.8896 | 0.7739 |
| 159.0 | 0.8997 | 0.7940 |
| 162.0 | 0.9097 | 0.8291 |
| 165.0 | 0.9297 | 0.8443 |
| 168.0 | 0.9308 | 0.8744 |
| 171.0 | 0.9353 | 0.8795 |
| 174.0 | 0.9376 | 0.9096 |
| 177.0 | 0.9398 | 0.9197 |
| 180.0 | 0.9398 | 0.9247 |

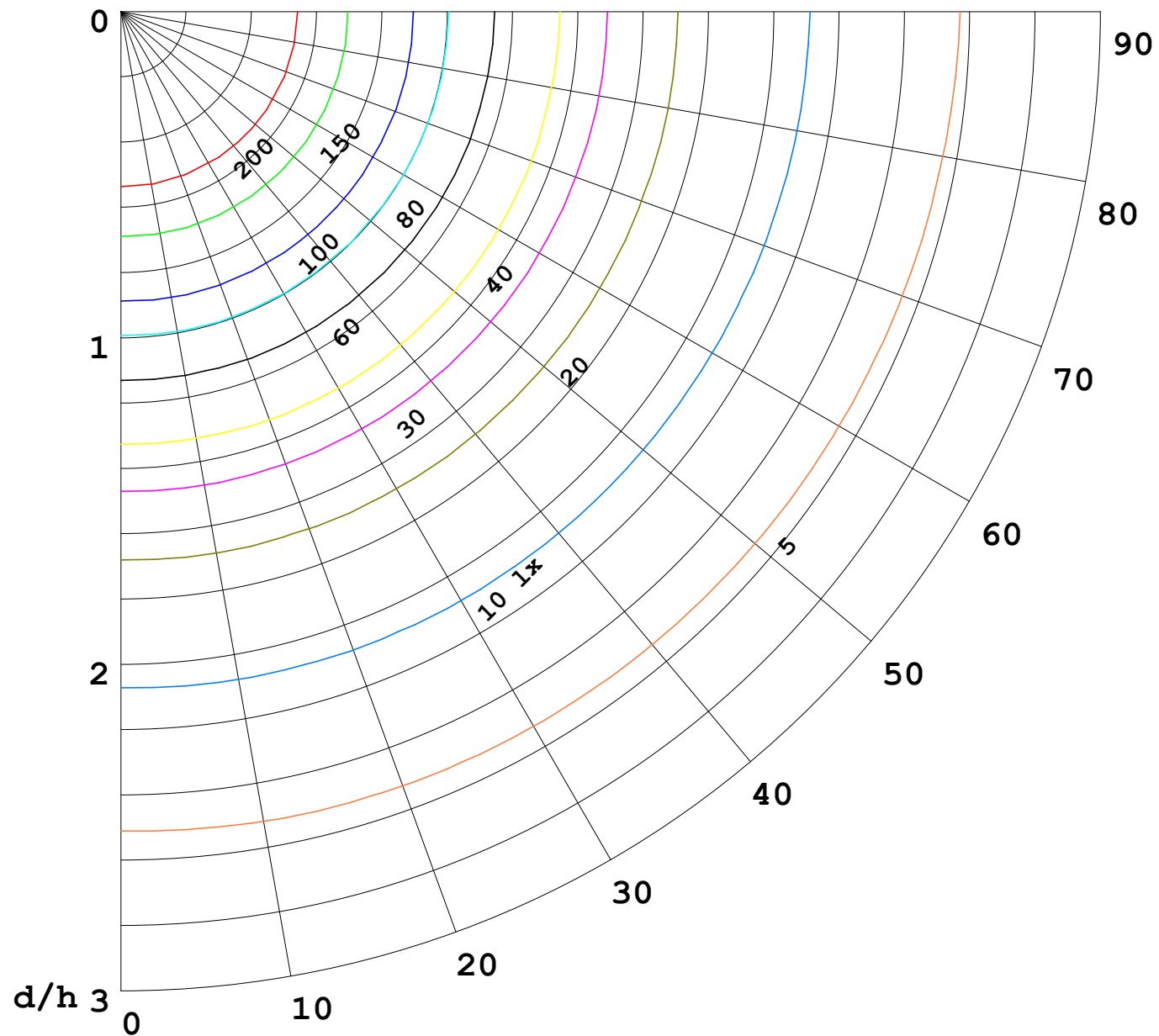
C Range: 0 - 360DEG  
C Interval: 30.0DEG  
Test Speed: HIGH  
Temperature: 25.3DEG  
Operators: HXJ  
Test Date: 2022-05-12

γ Range: 0 - 180DEG  
γ Interval: 1.0DEG  
Test System: EVERFINE GO-2000B\_V1 SYSTEM V2.0.269  
Humidity: 65.0%  
Test Distance: 9.200m [K=1.0000]  
Remarks:



1000 lm

$\kappa = 1$



F = 5000 lm  
 K = 0.7  
 Hcc = 0.0 m  
 Hfc = 0.0 m  
 Eave = 100 lx

|   | Pcc | Pw | Pfc |
|---|-----|----|-----|
| — | 70  | 50 | 30  |
| — | 50  | 30 | 20  |

