

Report No.: 1

Test Time: 21.11.2019 19:54

## Luminaire Property

Luminaire Manufacturer:

Luminaire Description: FG 55 (1500) 4x80LED 0,55A 70W 5000K opal

Luminous Length (mm): 1500

Luminous Width (mm): 55

Luminous Height (mm): 90

Voltage: 221.3 V

Current: 0.317 A

Power: 69.68 W

Power Factor: 0.992

## Photometric Results

CIE Class: Direct

Measurement Flux: 8678.2 lm

Downward Ratio: 99%

Total Rated Lamp Lumens: 8678.2 lm

Efficiency: 100%

Upward Ratio: 1%

Field Angle(C0/C180,C90/C270,C45/C225,C135/315): 158.6, 163.3, 159.9, 159.8

Beam Angle(C0/C180,C90/C270,C45/C225,C135/315): 110.1, 113.5, 112.4, 112.2

Luminaire Efficacy Rating (LER): 124.59

Central Intensity: 3016.28 cd

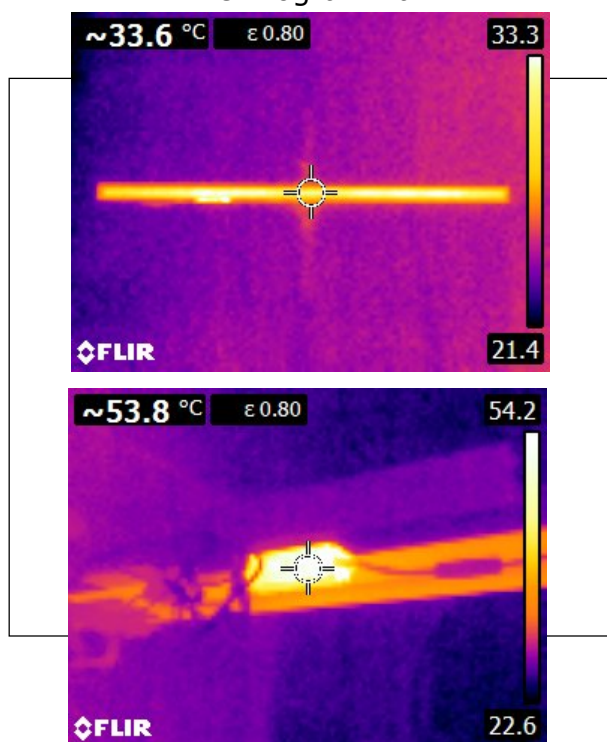
Max. Intensity: 3017.22 cd

Pos of Max. Intensity: H67.5 V3

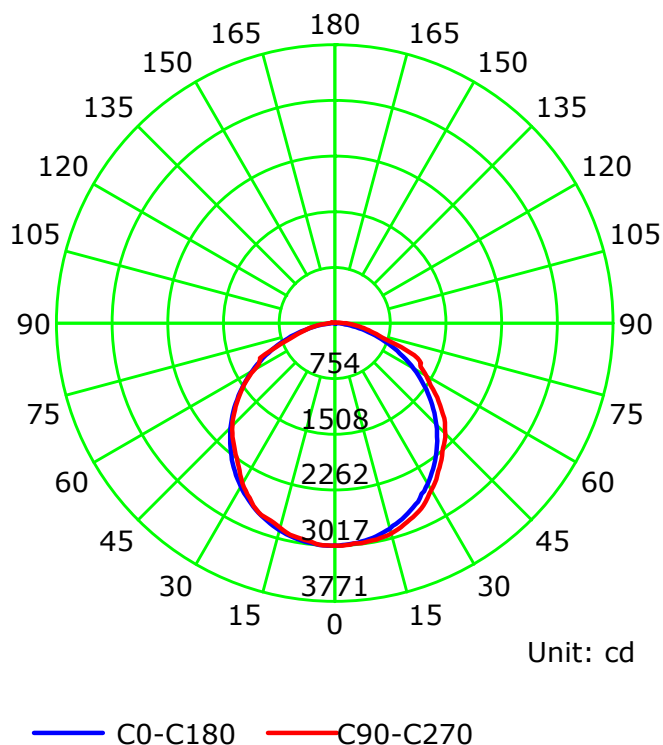
S/MH(C0/C180): 1.25

S/MH(C90/C270): 1.26

Termogramma



Luminous Intensity Distribution Curve



C Plane (°):0.0-360.0: 22.5

Test Lab:

Test Type: TYPE C

Temperature:

Operator:

Gamma Plane (°):0.0-180.0:1.0

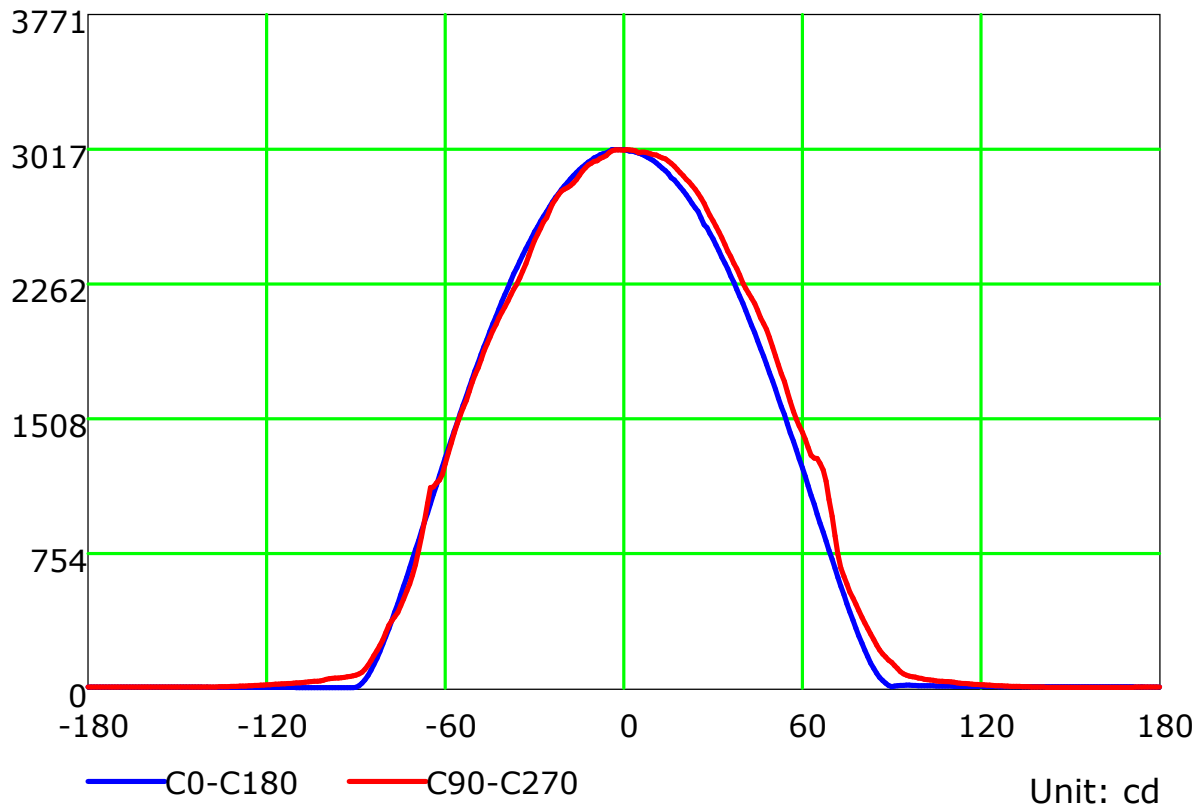
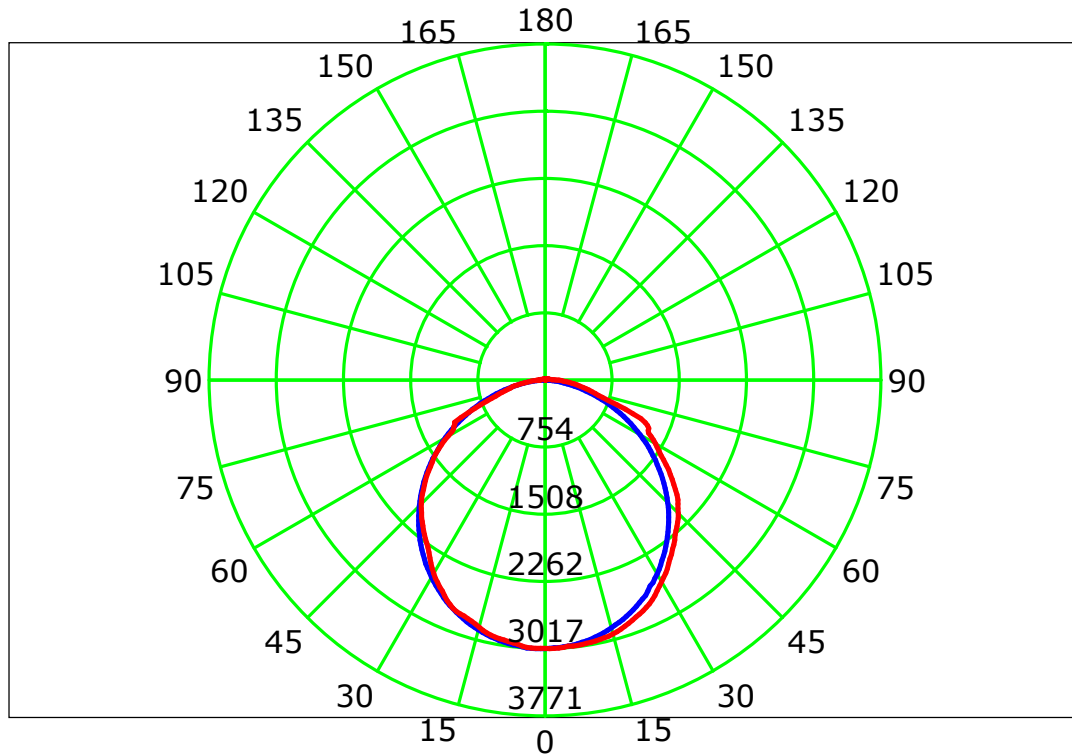
Test Device: LSG-1800B

Distance: 12.677 m

Humidity:

Inspector:

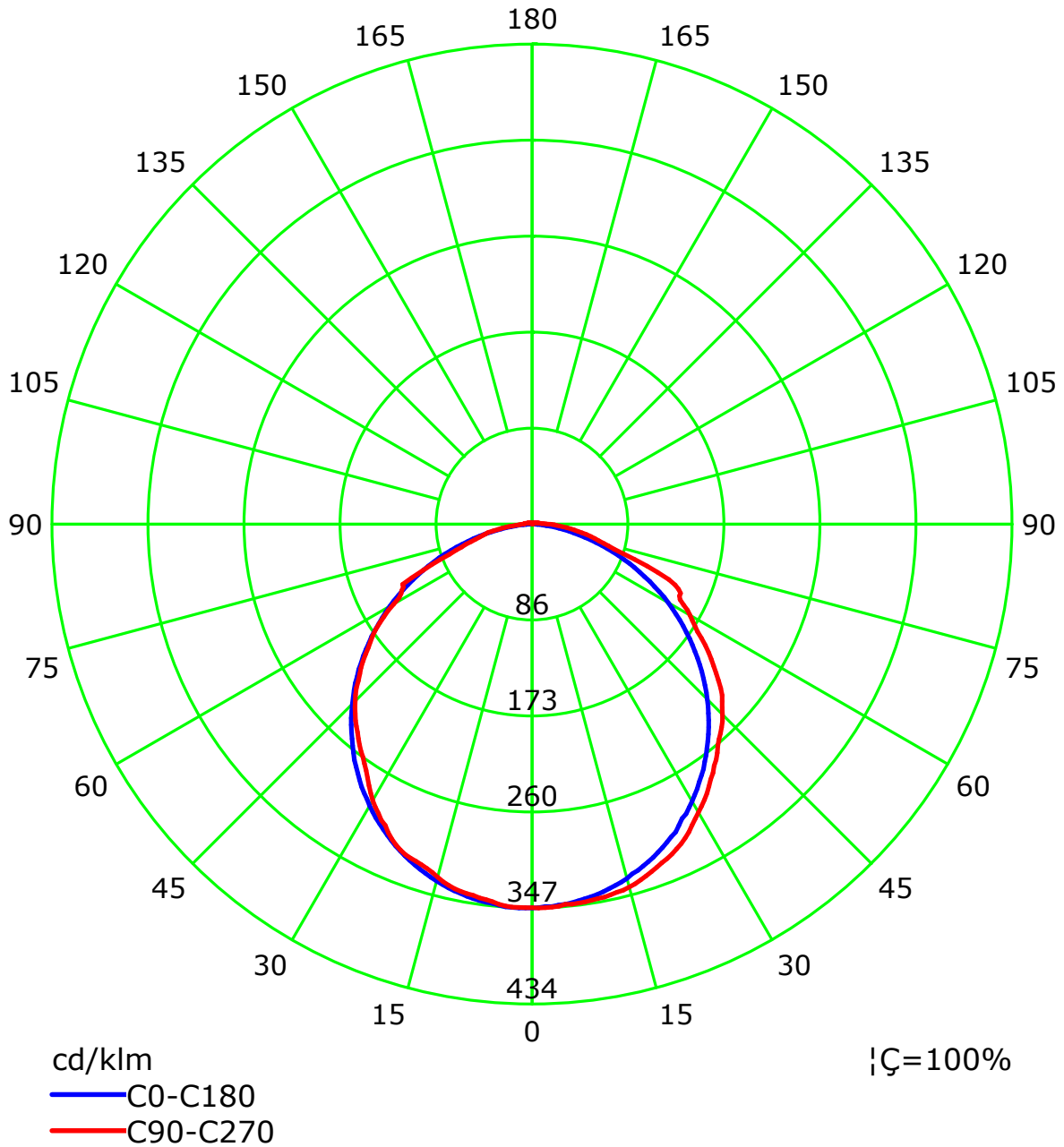
## Luminous Intensity Distribution Curve



C Plane (°):0.0-360.0: 22.5  
Test Lab:  
Test Type: TYPE C  
Temperature:  
Operator:

Gamma Plane (°):0.0-180.0:1.0  
Test Device: LSG-1800B  
Distance: 12.677 m  
Humidity:  
Inspector:

## Luminous Intensity Distribution Curve(cd/klm)



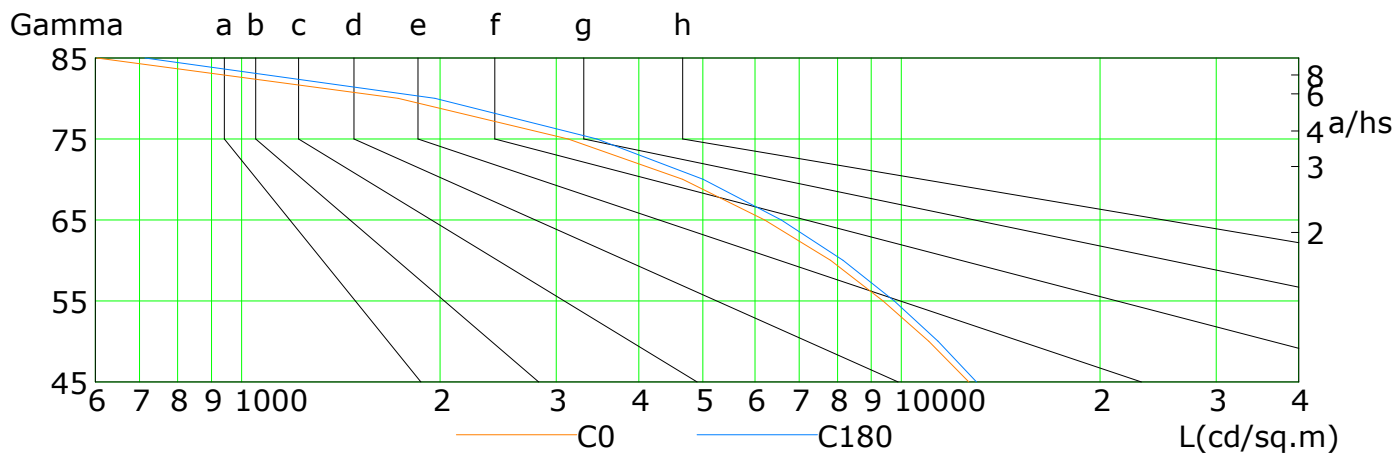
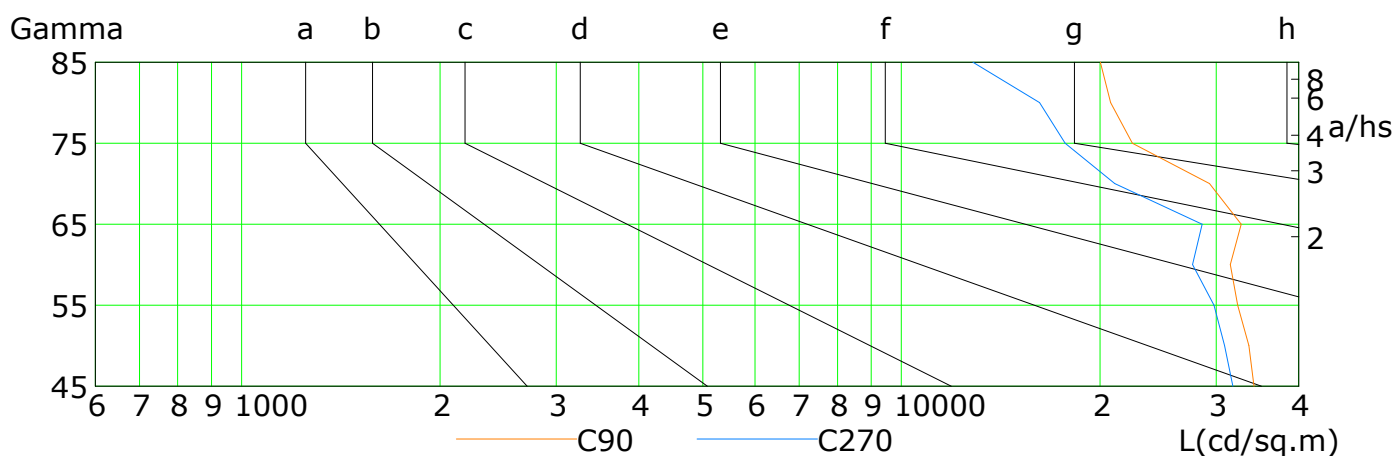
C Plane (°):0.0-360.0: 22.5  
Test Lab:  
Test Type: TYPE C  
Temperature:  
Operator:

Gamma Plane (°):0.0-180.0:1.0  
Test Device: LSG-1800B  
Distance: 12.677 m  
Humidity:  
Inspector:

## Lum Limit Curve

| Dazzle | Quality | Illuminance (lx) |      |      |       |       |       |       |       |
|--------|---------|------------------|------|------|-------|-------|-------|-------|-------|
| 1.15   | A       | 2000             | 1000 | 500  | <=300 |       |       |       |       |
| 1.50   | B       |                  | 2000 | 1000 | 500   | <=300 |       |       |       |
| 1.85   | C       |                  |      | 2000 | 1000  | 500   | <=300 |       |       |
| 2.20   | D       |                  |      |      | 2000  | 1000  | 500   | <=300 |       |
| 2.55   | E       |                  |      |      |       | 2000  | 1000  | 500   | <=300 |

a b c d e f g h

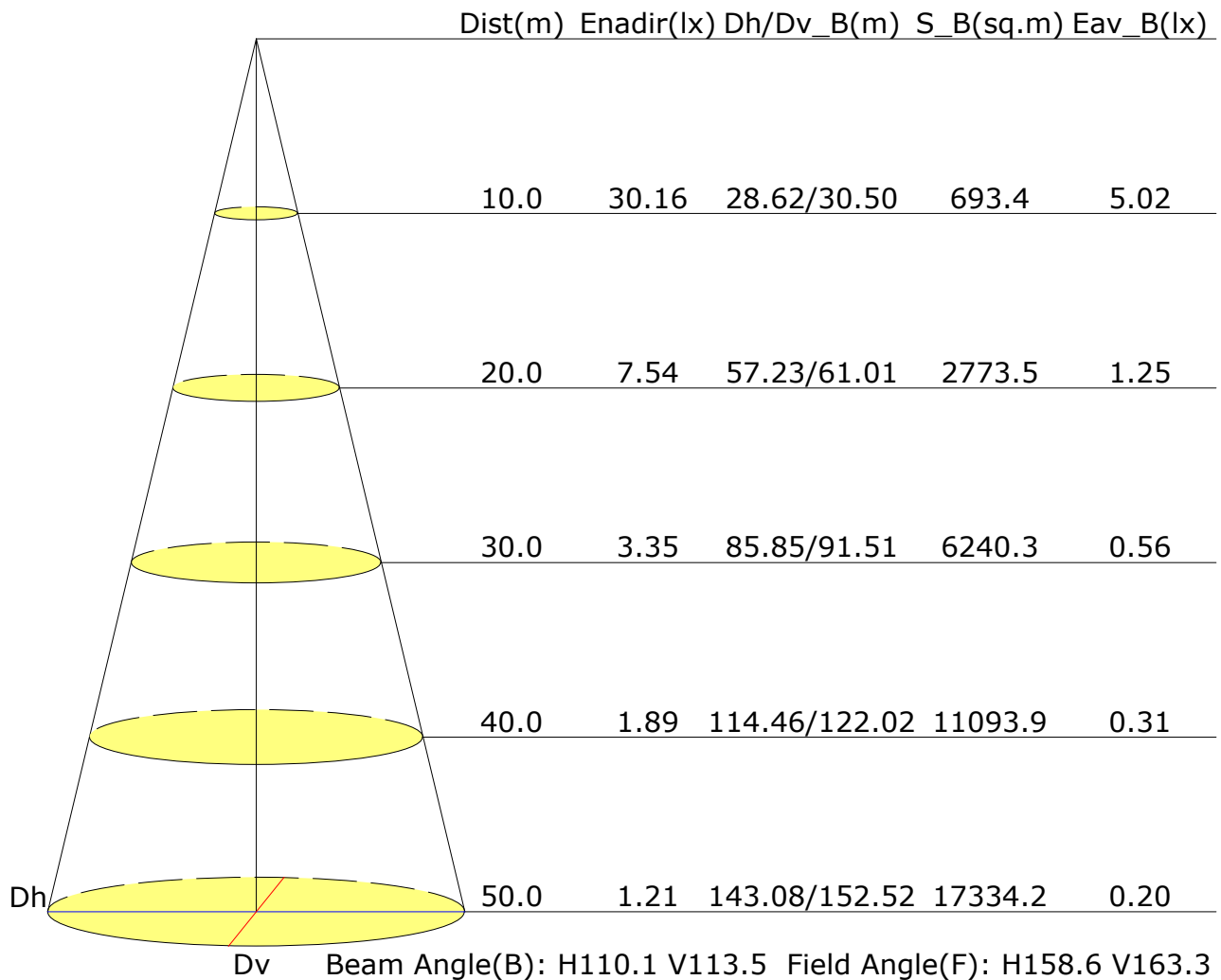


| L(cd/sq.m) | G45   | G50   | G55   | G60   | G65   | G70   | G75   | G80   | G85   |
|------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| C0         | 12659 | 11004 | 9378  | 7809  | 6202  | 4659  | 3126  | 1726  | 604   |
| C90        | 34224 | 33640 | 32317 | 31514 | 32721 | 29300 | 22383 | 20753 | 20019 |
| C180       | 13002 | 11367 | 9752  | 8161  | 6579  | 5007  | 3454  | 1963  | 714   |
| C270       | 31792 | 30896 | 29762 | 27611 | 28548 | 21056 | 17702 | 16186 | 12834 |

C Plane (°):0.0-360.0: 22.5  
 Test Lab:  
 Test Type: TYPE C  
 Temperature:  
 Operator:

Gamma Plane (°):0.0-180.0:1.0  
 Test Device: LSG-1800B  
 Distance: 12.677 m  
 Humidity:  
 Inspector:

## Illuminance at a Distance



## UGR Table

|                                                    |                  |      |      |      |      |                |      |      |      |      |
|----------------------------------------------------|------------------|------|------|------|------|----------------|------|------|------|------|
| Reflectance:                                       |                  |      |      |      |      |                |      |      |      |      |
| Ceiling (cavity)                                   | 0.7              | 0.7  | 0.5  | 0.5  | 0.3  | 0.7            | 0.7  | 0.5  | 0.5  | 0.3  |
| Wall                                               | 0.5              | 0.3  | 0.5  | 0.3  | 0.3  | 0.5            | 0.3  | 0.5  | 0.3  | 0.3  |
| Reference 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                                          | 20.4             | 21.8 | 20.7 | 22.1 | 22.3 | 22.9           | 24.3 | 23.2 | 24.5 | 24.8 |
| 3H                                                 | 21.3             | 22.6 | 21.7 | 22.8 | 23.2 | 24.5           | 25.8 | 24.9 | 26.0 | 26.4 |
| 4H                                                 | 21.6             | 22.7 | 21.9 | 23.0 | 23.4 | 24.9           | 26.1 | 25.3 | 26.4 | 26.8 |
| 6H                                                 | 21.7             | 22.8 | 22.0 | 23.1 | 23.4 | 25.3           | 26.4 | 25.7 | 26.7 | 27.1 |
| 8H                                                 | 21.7             | 22.7 | 22.0 | 23.1 | 23.4 | 25.5           | 26.5 | 25.9 | 26.9 | 27.2 |
| 12H                                                | 21.6             | 22.6 | 22.0 | 23.0 | 23.4 | 25.6           | 26.6 | 26.0 | 26.9 | 27.3 |
| X=4H Y=2H                                          | 21.1             | 22.3 | 21.4 | 22.6 | 22.9 | 23.1           | 24.3 | 23.5 | 24.6 | 24.9 |
| 3H                                                 | 22.1             | 23.1 | 22.5 | 23.5 | 23.9 | 24.8           | 25.8 | 25.2 | 26.2 | 26.6 |
| 4H                                                 | 22.4             | 23.3 | 22.9 | 23.7 | 24.1 | 25.3           | 26.2 | 25.8 | 26.6 | 27.0 |
| 6H                                                 | 22.6             | 23.4 | 23.0 | 23.8 | 24.2 | 25.8           | 26.6 | 26.2 | 27.0 | 27.4 |
| 8H                                                 | 22.6             | 23.3 | 23.1 | 23.8 | 24.2 | 26.0           | 26.7 | 26.4 | 27.1 | 27.6 |
| 12H                                                | 22.6             | 23.3 | 23.1 | 23.7 | 24.2 | 26.1           | 26.8 | 26.6 | 27.2 | 27.7 |
| X=8H Y=4H                                          | 22.7             | 23.4 | 23.1 | 23.8 | 24.3 | 25.4           | 26.1 | 25.8 | 26.5 | 27.0 |
| 6H                                                 | 22.9             | 23.5 | 23.4 | 23.9 | 24.4 | 25.9           | 26.5 | 26.4 | 26.9 | 27.4 |
| 8H                                                 | 22.9             | 23.4 | 23.4 | 23.9 | 24.4 | 26.1           | 26.6 | 26.6 | 27.1 | 27.6 |
| 12H                                                | 22.9             | 23.4 | 23.4 | 23.9 | 24.4 | 26.3           | 26.8 | 26.8 | 27.3 | 27.8 |
| X=12H Y=4H                                         | 22.7             | 23.3 | 23.1 | 23.8 | 24.2 | 25.3           | 26.0 | 25.8 | 26.4 | 26.9 |
| 6H                                                 | 22.9             | 23.4 | 23.4 | 23.9 | 24.4 | 25.9           | 26.4 | 26.4 | 26.9 | 27.4 |
| 8H                                                 | 23.0             | 23.4 | 23.5 | 23.9 | 24.4 | 26.1           | 26.6 | 26.6 | 27.1 | 27.6 |
| Variations with the observer position at spacings: |                  |      |      |      |      |                |      |      |      |      |
| S=1.0H                                             | +0.2/-0.3        |      |      |      |      | +0.1/-0.1      |      |      |      |      |
| S=1.5H                                             | +0.5/-0.9        |      |      |      |      | +0.5/-0.7      |      |      |      |      |
| S=2.0H                                             | +0.9/-1.6        |      |      |      |      | +1.2/-1.0      |      |      |      |      |

Calculate in accordance with CIE Pub.117. The table is revised with 8678lm ( $8\log(F/F_0) = 7.5$ ).

C Plane (°):0.0-360.0: 22.5  
 Test Lab:  
 Test Type: TYPE C  
 Temperature:  
 Operator:

Gamma Plane (°):0.0-180.0:1.0  
 Test Device: LSG-1800B  
 Distance: 12.677 m  
 Humidity:  
 Inspector:

## Utilisation Factor Table(Floor cavity)

| Utilisation Factors UF(F)                                                                                                                                                         |      |       | SHR NOM = 1.25 |      |      |      |      |      |      |      |      |  |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|-------|----------------|------|------|------|------|------|------|------|------|--|
| Room Reflectance                                                                                                                                                                  |      |       | Room Index(RI) |      |      |      |      |      |      |      |      |  |
| Ceiling                                                                                                                                                                           | Wall | Floor | 0.75           | 1.00 | 1.25 | 1.50 | 2.00 | 2.50 | 3.00 | 4.00 | 5.00 |  |
| 0.70                                                                                                                                                                              | 0.50 | 0.20  | 0.56           | 0.67 | 0.74 | 0.79 | 0.87 | 0.92 | 0.95 | 1.00 | 1.03 |  |
|                                                                                                                                                                                   | 0.30 |       | 0.48           | 0.59 | 0.67 | 0.72 | 0.81 | 0.86 | 0.90 | 0.96 | 0.99 |  |
|                                                                                                                                                                                   | 0.20 |       | 0.43           | 0.53 | 0.61 | 0.67 | 0.75 | 0.81 | 0.86 | 0.92 | 0.96 |  |
| 0.50                                                                                                                                                                              | 0.50 | 0.20  | 0.55           | 0.64 | 0.71 | 0.76 | 0.83 | 0.88 | 0.91 | 0.96 | 0.98 |  |
|                                                                                                                                                                                   | 0.30 |       | 0.47           | 0.58 | 0.65 | 0.71 | 0.78 | 0.83 | 0.87 | 0.92 | 0.95 |  |
|                                                                                                                                                                                   | 0.20 |       | 0.42           | 0.53 | 0.60 | 0.66 | 0.74 | 0.79 | 0.84 | 0.89 | 0.93 |  |
| 0.30                                                                                                                                                                              | 0.50 | 0.20  | 0.53           | 0.62 | 0.69 | 0.74 | 0.80 | 0.85 | 0.88 | 0.92 | 0.94 |  |
|                                                                                                                                                                                   | 0.30 |       | 0.47           | 0.57 | 0.64 | 0.69 | 0.76 | 0.81 | 0.84 | 0.89 | 0.92 |  |
|                                                                                                                                                                                   | 0.20 |       | 0.42           | 0.52 | 0.59 | 0.64 | 0.72 | 0.77 | 0.81 | 0.86 | 0.90 |  |
| 0.00                                                                                                                                                                              | 0.00 | 0.00  | 0.40           | 0.49 | 0.56 | 0.61 | 0.68 | 0.73 | 0.77 | 0.82 | 0.85 |  |
| Rating:70W Photometrically tested without ceiling board.<br>Multiply UF values by service correction factors<br>Calculate in accordance with CIBSE Technical Memorandum NO.5 1980 |      |       |                |      |      |      |      |      |      |      |      |  |

## Utilisation Factor Table(Wall)

| Utilisation Factors UF(W)                                                                                                                                                         |      |       | SHR NOM = 1.25 |      |      |      |      |      |      |      |      |  |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|-------|----------------|------|------|------|------|------|------|------|------|--|
| Room Reflectance                                                                                                                                                                  |      |       | Room Index(RI) |      |      |      |      |      |      |      |      |  |
| Ceiling                                                                                                                                                                           | Wall | Floor | 0.75           | 1.00 | 1.25 | 1.50 | 2.00 | 2.50 | 3.00 | 4.00 | 5.00 |  |
| 0.70                                                                                                                                                                              | 0.50 | 0.20  | 1.00           | 0.82 | 0.70 | 0.61 | 0.49 | 0.40 | 0.34 | 0.27 | 0.22 |  |
|                                                                                                                                                                                   | 0.30 |       | 0.83           | 0.70 | 0.61 | 0.54 | 0.44 | 0.37 | 0.32 | 0.25 | 0.21 |  |
|                                                                                                                                                                                   | 0.20 |       | 0.71           | 0.61 | 0.54 | 0.48 | 0.40 | 0.34 | 0.30 | 0.24 | 0.20 |  |
| 0.50                                                                                                                                                                              | 0.50 | 0.20  | 0.96           | 0.79 | 0.67 | 0.58 | 0.46 | 0.42 | 0.33 | 0.25 | 0.21 |  |
|                                                                                                                                                                                   | 0.30 |       | 0.81           | 0.68 | 0.59 | 0.52 | 0.42 | 0.36 | 0.31 | 0.24 | 0.20 |  |
|                                                                                                                                                                                   | 0.20 |       | 0.70           | 0.60 | 0.53 | 0.47 | 0.39 | 0.33 | 0.29 | 0.23 | 0.19 |  |
| 0.30                                                                                                                                                                              | 0.50 | 0.20  | 0.93           | 0.76 | 0.64 | 0.56 | 0.44 | 0.37 | 0.31 | 0.24 | 0.20 |  |
|                                                                                                                                                                                   | 0.30 |       | 0.79           | 0.67 | 0.57 | 0.50 | 0.41 | 0.34 | 0.29 | 0.23 | 0.19 |  |
|                                                                                                                                                                                   | 0.20 |       | 0.69           | 0.59 | 0.52 | 0.46 | 0.38 | 0.32 | 0.28 | 0.22 | 0.18 |  |
| 0.00                                                                                                                                                                              | 0.00 | 0.00  | 0.59           | 0.50 | 0.43 | 0.38 | 0.30 | 0.25 | 0.22 | 0.17 | 0.14 |  |
| Rating:70W Photometrically tested without ceiling board.<br>Multiply UF values by service correction factors<br>Calculate in accordance with CIBSE Technical Memorandum NO.5 1980 |      |       |                |      |      |      |      |      |      |      |      |  |

## Utilisation Factor Table(Ceiling cavity)

| Utilisation Factors UF(C)                                                                                                                                                         |      |       | SHR NOM = 1.25 |      |      |      |      |      |      |      |      |  |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|-------|----------------|------|------|------|------|------|------|------|------|--|
| Room Reflectance                                                                                                                                                                  |      |       | Room Index(RI) |      |      |      |      |      |      |      |      |  |
| Ceiling                                                                                                                                                                           | Wall | Floor | 0.75           | 1.00 | 1.25 | 1.50 | 2.00 | 2.50 | 3.00 | 4.00 | 5.00 |  |
| 0.70                                                                                                                                                                              | 0.50 | 0.20  | 0.18           | 0.19 | 0.20 | 0.20 | 0.21 | 0.22 | 0.22 | 0.23 | 0.23 |  |
|                                                                                                                                                                                   | 0.30 |       | 0.11           | 0.12 | 0.14 | 0.15 | 0.16 | 0.17 | 0.18 | 0.20 | 0.20 |  |
|                                                                                                                                                                                   | 0.20 |       | 0.06           | 0.07 | 0.09 | 0.10 | 0.12 | 0.14 | 0.15 | 0.17 | 0.18 |  |
| 0.50                                                                                                                                                                              | 0.50 | 0.20  | 0.17           | 0.18 | 0.19 | 0.20 | 0.20 | 0.21 | 0.21 | 0.22 | 0.22 |  |
|                                                                                                                                                                                   | 0.30 |       | 0.11           | 0.12 | 0.13 | 0.14 | 0.16 | 0.17 | 0.18 | 0.19 | 0.20 |  |
|                                                                                                                                                                                   | 0.20 |       | 0.06           | 0.07 | 0.09 | 0.10 | 0.12 | 0.13 | 0.15 | 0.16 | 0.17 |  |
| 0.30                                                                                                                                                                              | 0.50 | 0.20  | 0.16           | 0.18 | 0.18 | 0.19 | 0.20 | 0.20 | 0.20 | 0.21 | 0.21 |  |
|                                                                                                                                                                                   | 0.30 |       | 0.10           | 0.12 | 0.13 | 0.14 | 0.15 | 0.16 | 0.17 | 0.18 | 0.19 |  |
|                                                                                                                                                                                   | 0.20 |       | 0.06           | 0.07 | 0.09 | 0.10 | 0.12 | 0.13 | 0.14 | 0.16 | 0.17 |  |
| 0.00                                                                                                                                                                              | 0.00 | 0.00  | 0.01           | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 |  |
| Rating:70W Photometrically tested without ceiling board.<br>Multiply UF values by service correction factors<br>Calculate in accordance with CIBSE Technical Memorandum NO.5 1980 |      |       |                |      |      |      |      |      |      |      |      |  |