

Report No.:

Test Time: 30.10.2020 15:47

## Luminaire Property

Luminaire Manufacturer:

Luminaire Description: FG 50 30LED 0.6A 75Wx2 5000K opal

Number of Lamps: 1

Luminous Width (mm): 55

Voltage: 221.5 V

Power: 159.11 W

Luminous Length (mm): 1245

Luminous Height (mm): 80

Current: 0.732 A

Power Factor: 0.981

## Photometric Results

CIE Class: Direct

Measurement Flux: 12588 lm

Downward Ratio: 100%

Field Angle(C0/C180,C90/C270,C45/C225,C135/315): 164.5, 160.0, 161.9, 162.0

Beam Angle(C0/C180,C90/C270,C45/C225,C135/315): 111.5, 109.1, 110.2, 110.3

Luminaire Efficacy Rating (LER): 79.16

Max. Intensity: 4481.03 cd

S/MH(C0/C180): 1.24

Total Rated Lamp Lumens: 12588.0 lm

Efficiency: 100%

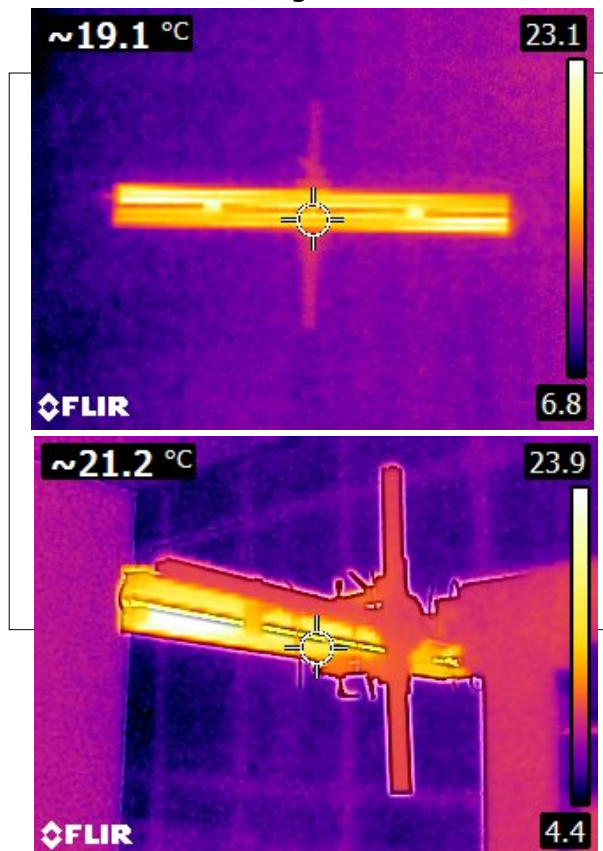
Upward Ratio: 0%

Central Intensity: 4480.21 cd

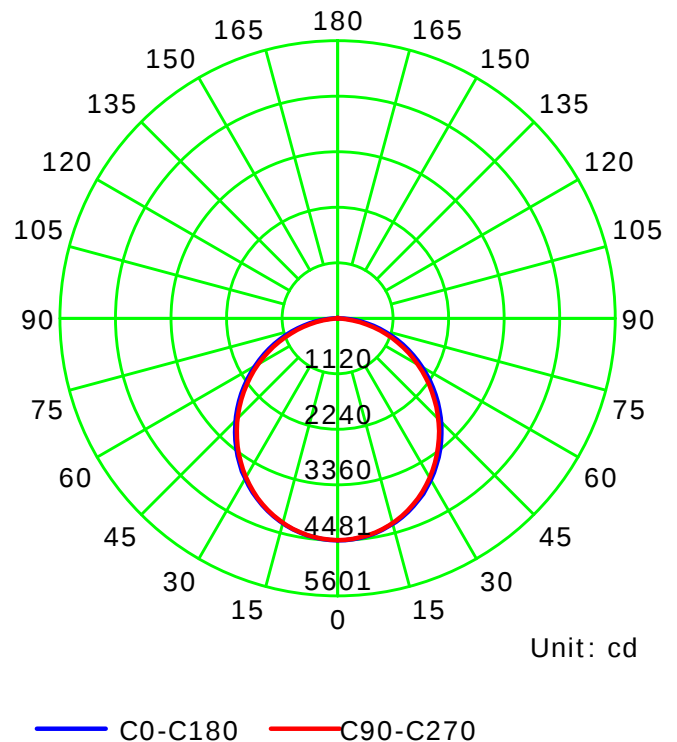
Pos of Max. Intensity: H22.5 V0

S/MH(C90/C270): 1.23

Termogramma



Luminous Intensity Distribution Curve



C Plane (°):0.0-360.0: 22.5

Test Lab:

Test Type: TYPE C

Temperature:

Operator:

Gamma Plane (°):0.0-180.0:2.0

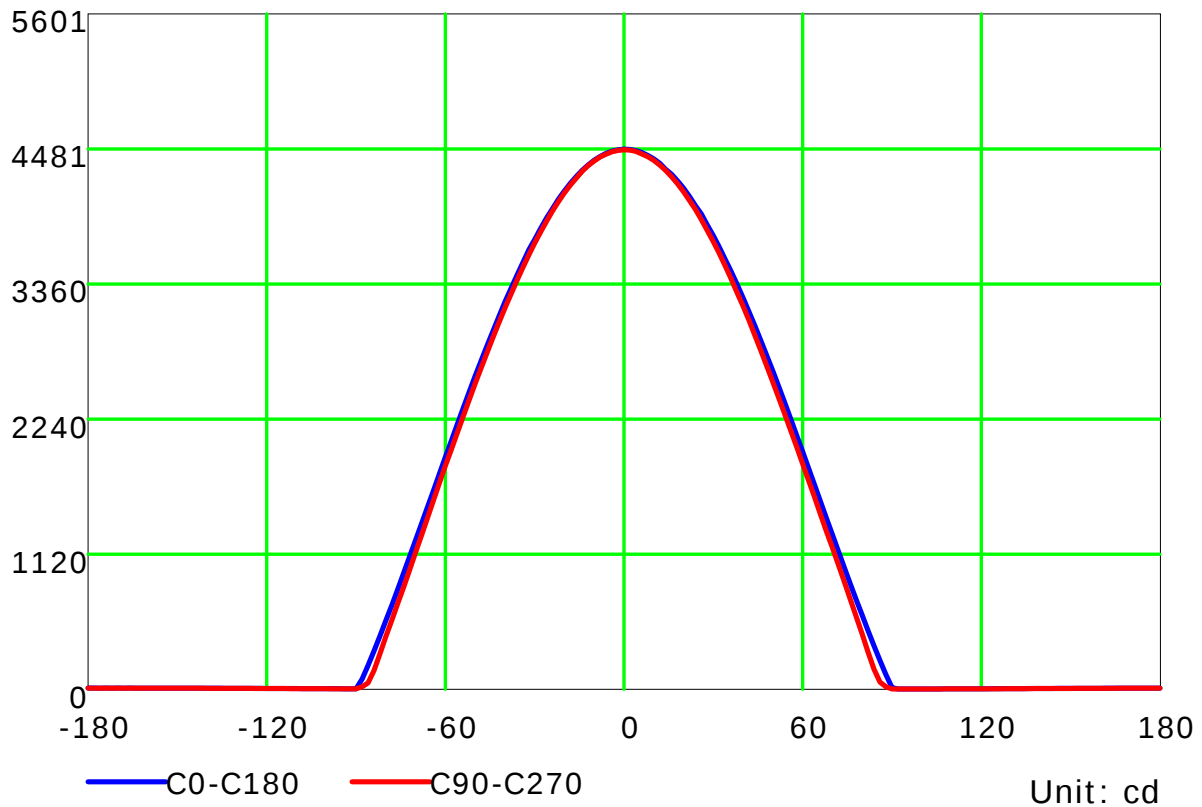
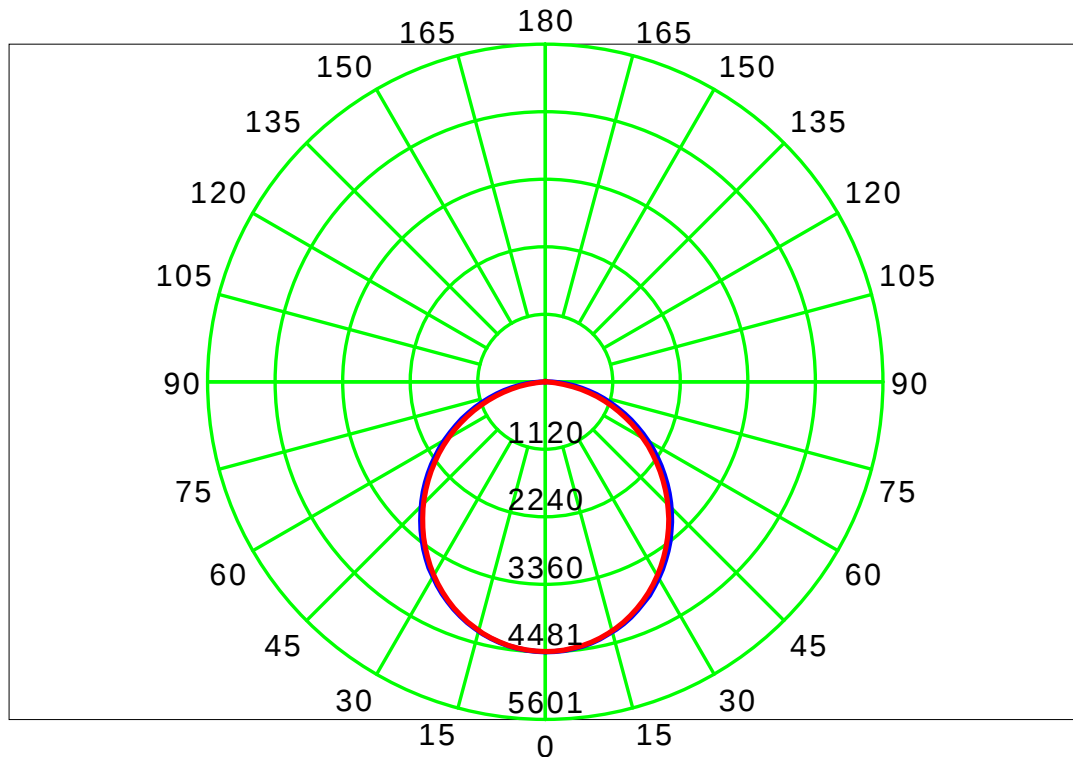
Test Device: LSG-1800B

Distance: 12.682 m

Humidity:

Inspector:

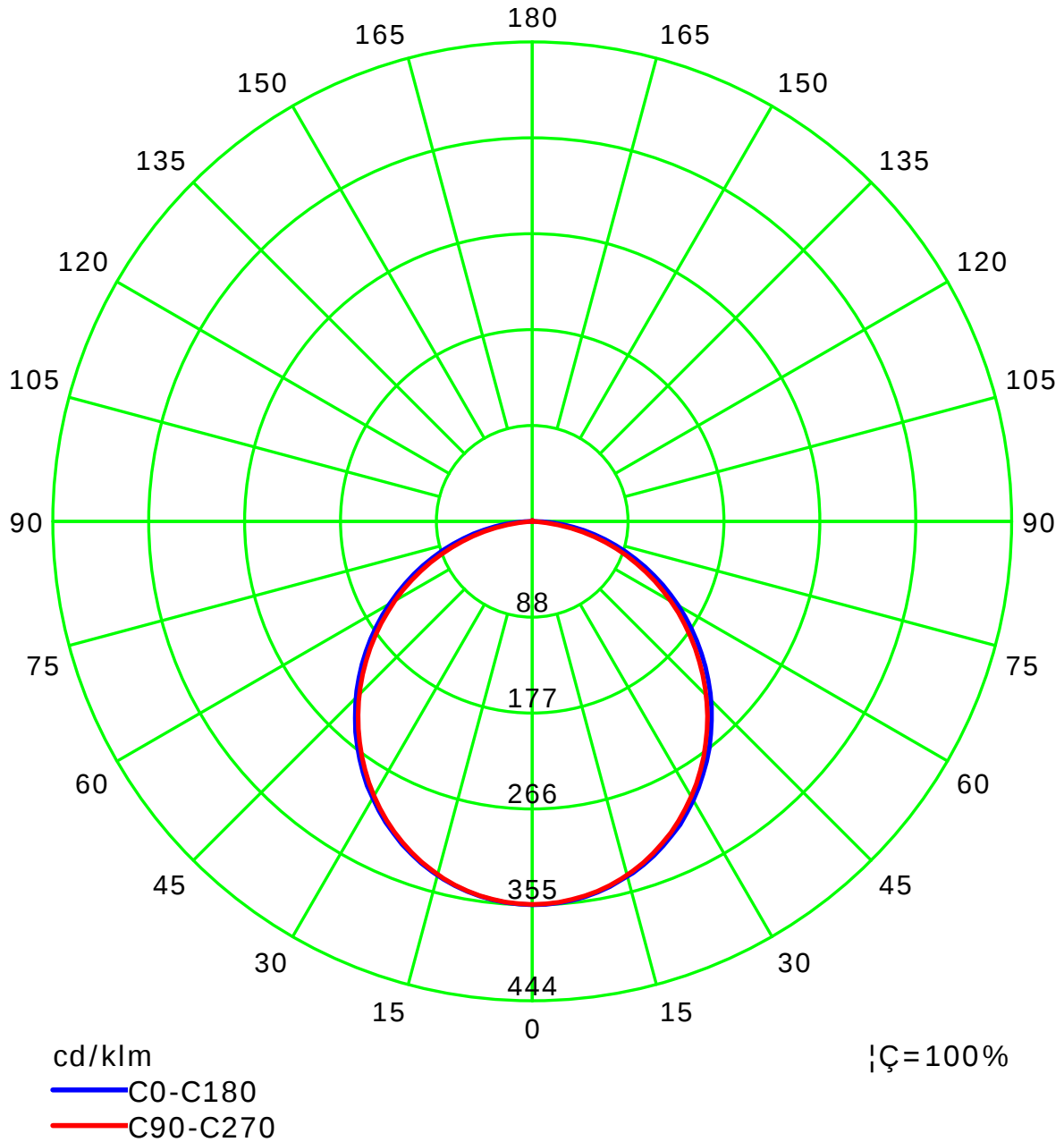
## Luminous Intensity Distribution Curve



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

Gamma Plane (°):0.0-180.0:2.0  
Test Device: LSG-1800B  
Distance: 12.682 m  
Humidity:  
Inspector:

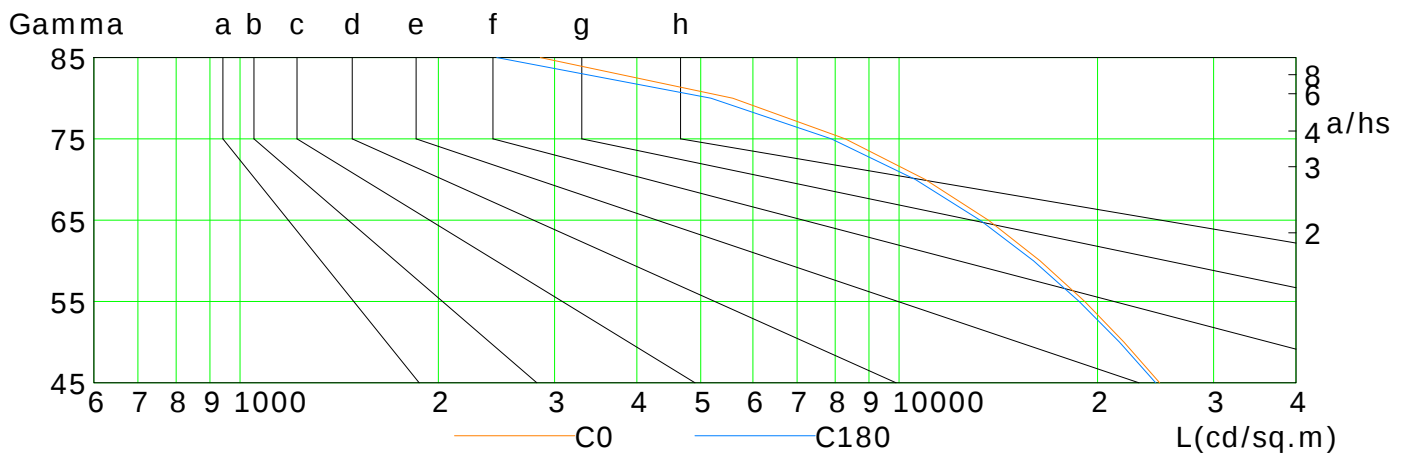
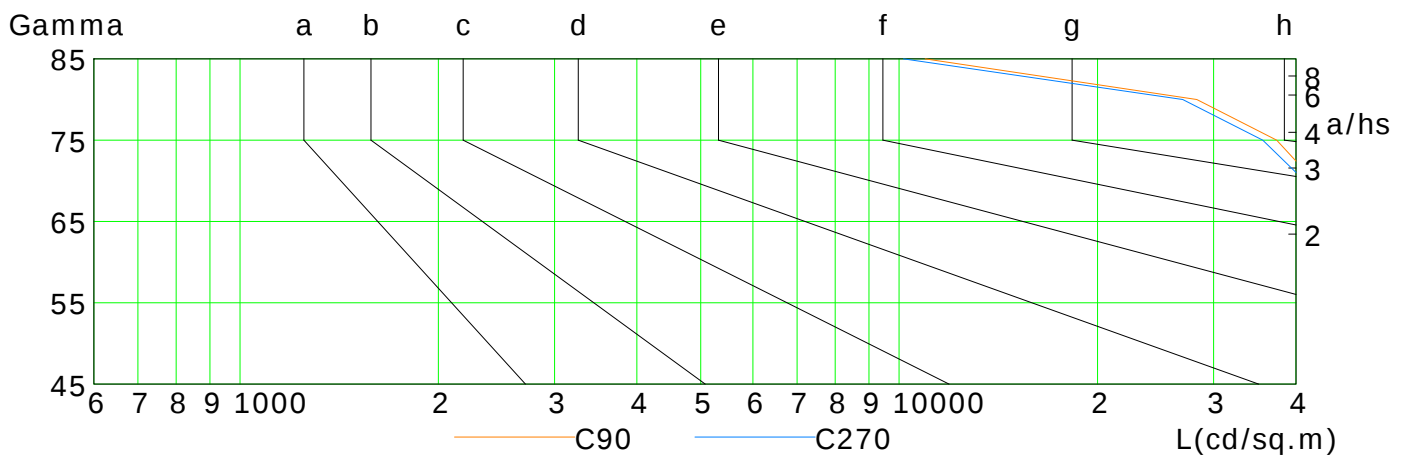
## Luminous Intensity Distribution Curve(cd / klm)



## 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         | 24845 | 21937 | 19124 | 16366 | 13655 | 10959 | 8283  | 5591  | 2854  |
| C90        | 55731 | 53756 | 51666 | 49183 | 46287 | 42647 | 37399 | 28294 | 10951 |
| C180       | 24506 | 21591 | 18753 | 15987 | 13269 | 10582 | 7891  | 5182  | 2452  |
| C270       | 55456 | 53507 | 51262 | 48740 | 45474 | 41239 | 35625 | 26935 | 10156 |

C Plane (°):0.0-360.0: 22.5

Test Lab:

Test Type: TYPE C

Temperature:

Operator:

Gamma Plane (°):0.0-180.0:2.0

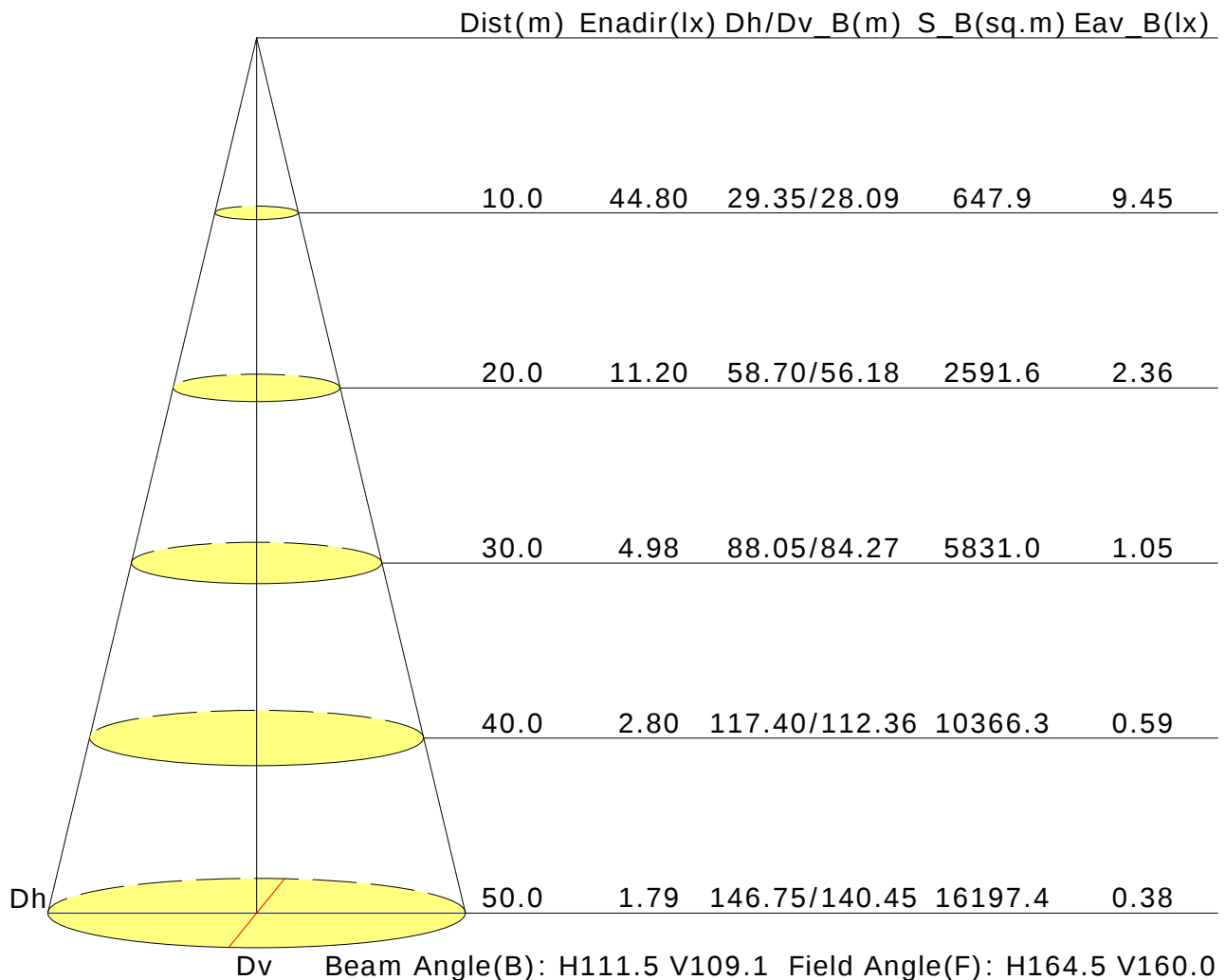
Test Device: LSG-1800B

Distance: 12.682 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                                          | 23.0             | 24.4 | 23.3 | 24.7 | 24.9 | 24.8           | 26.2 | 25.1 | 26.4 | 26.7 |
| 3H                                                 | 24.1             | 25.4 | 24.5 | 25.7 | 26.0 | 26.2           | 27.5 | 26.6 | 27.8 | 28.1 |
| 4H                                                 | 24.5             | 25.7 | 24.9 | 26.0 | 26.3 | 26.8           | 28.0 | 27.2 | 28.3 | 28.6 |
| 6H                                                 | 24.8             | 25.9 | 25.2 | 26.2 | 26.5 | 27.2           | 28.3 | 27.5 | 28.6 | 28.9 |
| 8H                                                 | 24.8             | 25.9 | 25.2 | 26.2 | 26.6 | 27.2           | 28.3 | 27.6 | 28.6 | 29.0 |
| 12H                                                | 24.9             | 25.9 | 25.3 | 26.2 | 26.6 | 27.2           | 28.3 | 27.6 | 28.6 | 29.0 |
| X=4H Y=2H                                          | 23.7             | 24.9 | 24.0 | 25.1 | 25.5 | 25.1           | 26.3 | 25.4 | 26.6 | 26.9 |
| 3H                                                 | 24.9             | 26.0 | 25.3 | 26.3 | 26.6 | 26.7           | 27.7 | 27.1 | 28.0 | 28.4 |
| 4H                                                 | 25.4             | 26.3 | 25.8 | 26.7 | 27.1 | 27.3           | 28.2 | 27.7 | 28.6 | 29.0 |
| 6H                                                 | 25.8             | 26.6 | 26.2 | 27.0 | 27.4 | 27.7           | 28.6 | 28.2 | 29.0 | 29.4 |
| 8H                                                 | 25.8             | 26.6 | 26.3 | 27.0 | 27.4 | 27.8           | 28.6 | 28.3 | 29.0 | 29.4 |
| 12H                                                | 25.9             | 26.6 | 26.4 | 27.0 | 27.4 | 27.9           | 28.5 | 28.3 | 29.0 | 29.4 |
| X=8H Y=4H                                          | 25.6             | 26.4 | 26.1 | 26.8 | 27.2 | 27.4           | 28.1 | 27.8 | 28.6 | 29.0 |
| 6H                                                 | 26.1             | 26.7 | 26.5 | 27.1 | 27.6 | 27.9           | 28.5 | 28.4 | 28.9 | 29.4 |
| 8H                                                 | 26.2             | 26.7 | 26.7 | 27.2 | 27.7 | 28.0           | 28.6 | 28.5 | 29.0 | 29.5 |
| 12H                                                | 26.3             | 26.8 | 26.8 | 27.2 | 27.7 | 28.1           | 28.5 | 28.6 | 29.0 | 29.5 |
| X=12H Y=4H                                         | 25.6             | 26.3 | 26.1 | 26.8 | 27.2 | 27.4           | 28.1 | 27.8 | 28.5 | 28.9 |
| 6H                                                 | 26.1             | 26.6 | 26.6 | 27.1 | 27.6 | 27.9           | 28.4 | 28.4 | 28.9 | 29.4 |
| 8H                                                 | 26.3             | 26.7 | 26.8 | 27.2 | 27.7 | 28.0           | 28.5 | 28.5 | 29.0 | 29.5 |
| Variations with the observer position at spacings: |                  |      |      |      |      |                |      |      |      |      |
| S=1.0H                                             | +0.2/-0.3        |      |      |      |      | +0.1/-0.2      |      |      |      |      |
| S=1.5H                                             | +0.4/-0.7        |      |      |      |      | +0.5/-0.6      |      |      |      |      |
| S=2.0H                                             | +0.7/-1.3        |      |      |      |      | +1.2/-1.3      |      |      |      |      |

Calculate in accordance with CIE Pub.117. The table is revised with 12588lm ( $8\log(F/F_0) = 8.8$ ).

C Plane (°):0.0-360.0: 22.5

Test Lab:

Test Type: TYPE C

Temperature:

Operator:

Gamma Plane (°):0.0-180.0:2.0

Test Device: LSG-1800B

Distance: 12.682 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 | 0.80 | 0.87 | 0.92 | 0.96 | 1.00 | 1.03 |  |
|                                                                                                                                                                                                   | 0.30 |       | 0.49           | 0.59 | 0.67 | 0.72 | 0.81 | 0.86 | 0.90 | 0.96 | 1.00 |  |
|                                                                                                                                                                                                   | 0.20 |       | 0.43           | 0.53 | 0.61 | 0.67 | 0.75 | 0.82 | 0.86 | 0.92 | 0.96 |  |
| 0.50                                                                                                                                                                                              | 0.50 | 0.20  | 0.55           | 0.65 | 0.72 | 0.77 | 0.84 | 0.88 | 0.92 | 0.96 | 0.99 |  |
|                                                                                                                                                                                                   | 0.30 |       | 0.48           | 0.58 | 0.65 | 0.71 | 0.78 | 0.84 | 0.88 | 0.93 | 0.96 |  |
|                                                                                                                                                                                                   | 0.20 |       | 0.43           | 0.53 | 0.60 | 0.66 | 0.74 | 0.80 | 0.84 | 0.90 | 0.93 |  |
| 0.30                                                                                                                                                                                              | 0.50 | 0.20  | 0.53           | 0.63 | 0.69 | 0.74 | 0.81 | 0.85 | 0.88 | 0.92 | 0.95 |  |
|                                                                                                                                                                                                   | 0.30 |       | 0.47           | 0.57 | 0.64 | 0.69 | 0.76 | 0.81 | 0.85 | 0.90 | 0.93 |  |
|                                                                                                                                                                                                   | 0.20 |       | 0.42           | 0.52 | 0.59 | 0.65 | 0.72 | 0.78 | 0.82 | 0.87 | 0.90 |  |
| 0.00                                                                                                                                                                                              | 0.00 | 0.00  | 0.40           | 0.50 | 0.57 | 0.62 | 0.69 | 0.74 | 0.78 | 0.83 | 0.86 |  |
| <p>Rating:159W Photometrically tested without ceiling board.</p> <p>Multiply UF values by service correction factors</p> <p>Calculate in accordance with CIBSE Technical Memorandum NO.5 1980</p> |      |       |                |      |      |      |      |      |      |      |      |  |

## 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           | 0.83 | 0.70 | 0.61 | 0.49 | 0.41 | 0.35 | 0.27 | 0.22 |  |
|                                                                                                                                                                                                   | 0.30 |       | 0.83           | 0.71 | 0.61 | 0.54 | 0.44 | 0.37 | 0.32 | 0.25 | 0.21 |  |
|                                                                                                                                                                                                   | 0.20 |       | 0.71           | 0.62 | 0.54 | 0.49 | 0.40 | 0.34 | 0.30 | 0.24 | 0.20 |  |
| 0.50                                                                                                                                                                                              | 0.50 | 0.20  | 0.96           | 0.79 | 0.67 | 0.59 | 0.47 | 0.42 | 0.33 | 0.26 | 0.21 |  |
|                                                                                                                                                                                                   | 0.30 |       | 0.82           | 0.69 | 0.60 | 0.53 | 0.43 | 0.36 | 0.31 | 0.24 | 0.20 |  |
|                                                                                                                                                                                                   | 0.20 |       | 0.71           | 0.61 | 0.53 | 0.48 | 0.39 | 0.33 | 0.29 | 0.23 | 0.19 |  |
| 0.30                                                                                                                                                                                              | 0.50 | 0.20  | 0.94           | 0.76 | 0.65 | 0.56 | 0.45 | 0.37 | 0.32 | 0.24 | 0.20 |  |
|                                                                                                                                                                                                   | 0.30 |       | 0.80           | 0.67 | 0.58 | 0.51 | 0.41 | 0.35 | 0.30 | 0.23 | 0.19 |  |
|                                                                                                                                                                                                   | 0.20 |       | 0.70           | 0.60 | 0.52 | 0.47 | 0.38 | 0.32 | 0.28 | 0.22 | 0.18 |  |
| 0.00                                                                                                                                                                                              | 0.00 | 0.00  | 0.60           | 0.50 | 0.43 | 0.38 | 0.31 | 0.26 | 0.22 | 0.17 | 0.14 |  |
| <p>Rating:159W Photometrically tested without ceiling board.</p> <p>Multiply UF values by service correction factors</p> <p>Calculate in accordance with CIBSE Technical Memorandum NO.5 1980</p> |      |       |                |      |      |      |      |      |      |      |      |  |

## 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  | 0.17           | 0.18 | 0.19 | 0.19 | 0.20 | 0.21 | 0.21 | 0.22 | 0.22 |  |
|                                                                                                                                                                                                   | 0.30 |       | 0.10           | 0.11 | 0.13 | 0.14 | 0.15 | 0.17 | 0.17 | 0.19 | 0.20 |  |
|                                                                                                                                                                                                   | 0.20 |       | 0.05           | 0.07 | 0.08 | 0.09 | 0.11 | 0.13 | 0.14 | 0.16 | 0.17 |  |
| 0.50                                                                                                                                                                                              | 0.50 | 0.20  | 0.16           | 0.17 | 0.18 | 0.19 | 0.20 | 0.20 | 0.20 | 0.21 | 0.21 |  |
|                                                                                                                                                                                                   | 0.30 |       | 0.10           | 0.11 | 0.12 | 0.13 | 0.15 | 0.16 | 0.17 | 0.18 | 0.19 |  |
|                                                                                                                                                                                                   | 0.20 |       | 0.05           | 0.06 | 0.08 | 0.09 | 0.11 | 0.13 | 0.14 | 0.15 | 0.17 |  |
| 0.30                                                                                                                                                                                              | 0.50 | 0.20  | 0.16           | 0.17 | 0.17 | 0.18 | 0.19 | 0.19 | 0.20 | 0.20 | 0.20 |  |
|                                                                                                                                                                                                   | 0.30 |       | 0.09           | 0.11 | 0.12 | 0.13 | 0.15 | 0.16 | 0.16 | 0.17 | 0.18 |  |
|                                                                                                                                                                                                   | 0.20 |       | 0.05           | 0.06 | 0.08 | 0.09 | 0.11 | 0.12 | 0.13 | 0.15 | 0.16 |  |
| 0.00                                                                                                                                                                                              | 0.00 | 0.00  | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |  |
| <p>Rating:159W Photometrically tested without ceiling board.</p> <p>Multiply UF values by service correction factors</p> <p>Calculate in accordance with CIBSE Technical Memorandum NO.5 1980</p> |      |       |                |      |      |      |      |      |      |      |      |  |