

Report No.: 1

Test Time: 25.10.2019 15:57

## Luminaire Property

Luminaire Manufacturer:

Luminaire Description: FI 75 40LED 45W 4000K Edison 34-36lm

Luminous Length (mm): 1275

Luminous Width (mm): 80

Luminous Height (mm): 75

Voltage: 221.2 V

Current: 0.207 A

Power: 45.22 W

Power Factor: 0.984

## Photometric Results

CIE Class: Semi-Direct

Measurement Flux: 5195.6 lm

Downward Ratio: 85%

Total Rated Lamp Lumens: 5195.6 lm

Efficiency: 100%

Upward Ratio: 15%

Field Angle(C0/C180,C90/C270,C45/C225,C135/315): 166.3, 279.5, 233.5, 231.4

Beam Angle(C0/C180,C90/C270,C45/C225,C135/315): 115.3, 140.1, 126.3, 125.7

Luminaire Efficacy Rating (LER): 114.95

Central Intensity: 1257.84 cd

Max. Intensity: 1266.57 cd

Pos of Max. Intensity: H157.5 V1

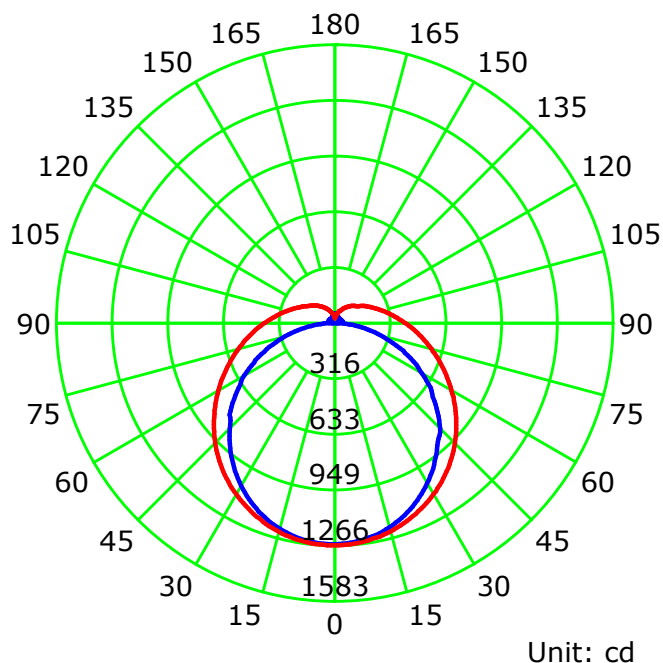
S/MH(C0/C180): 1.25

S/MH(C90/C270): 1.33

Picture Of Luminaire



Luminous Intensity Distribution Curve



Unit: cd

— C0-C180 — C90-C270

C Plane (°):0.0-360.0: 22.5

Test Lab:

Test Type: TYPE C

Temperature:

Operator:

Gamma Plane (°):0.0-180.0:1.0

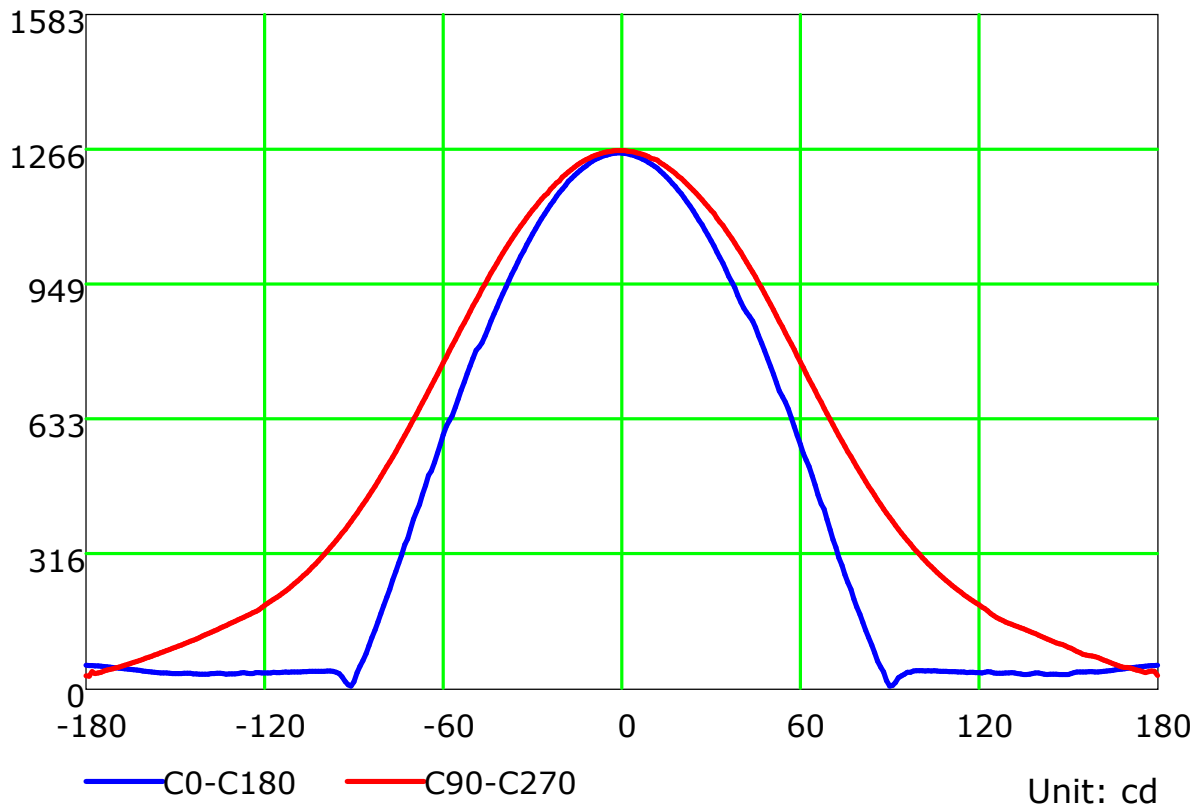
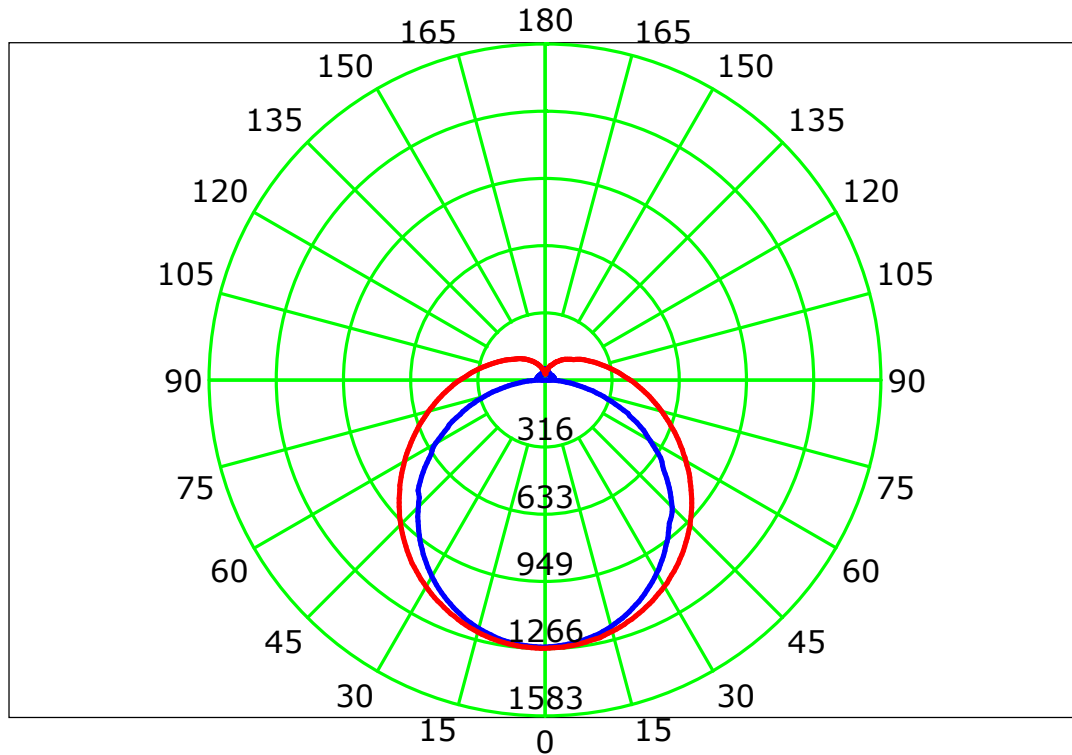
Test Device: LSG-1800B

Distance: 12.677 m

Humidity:

Inspector:

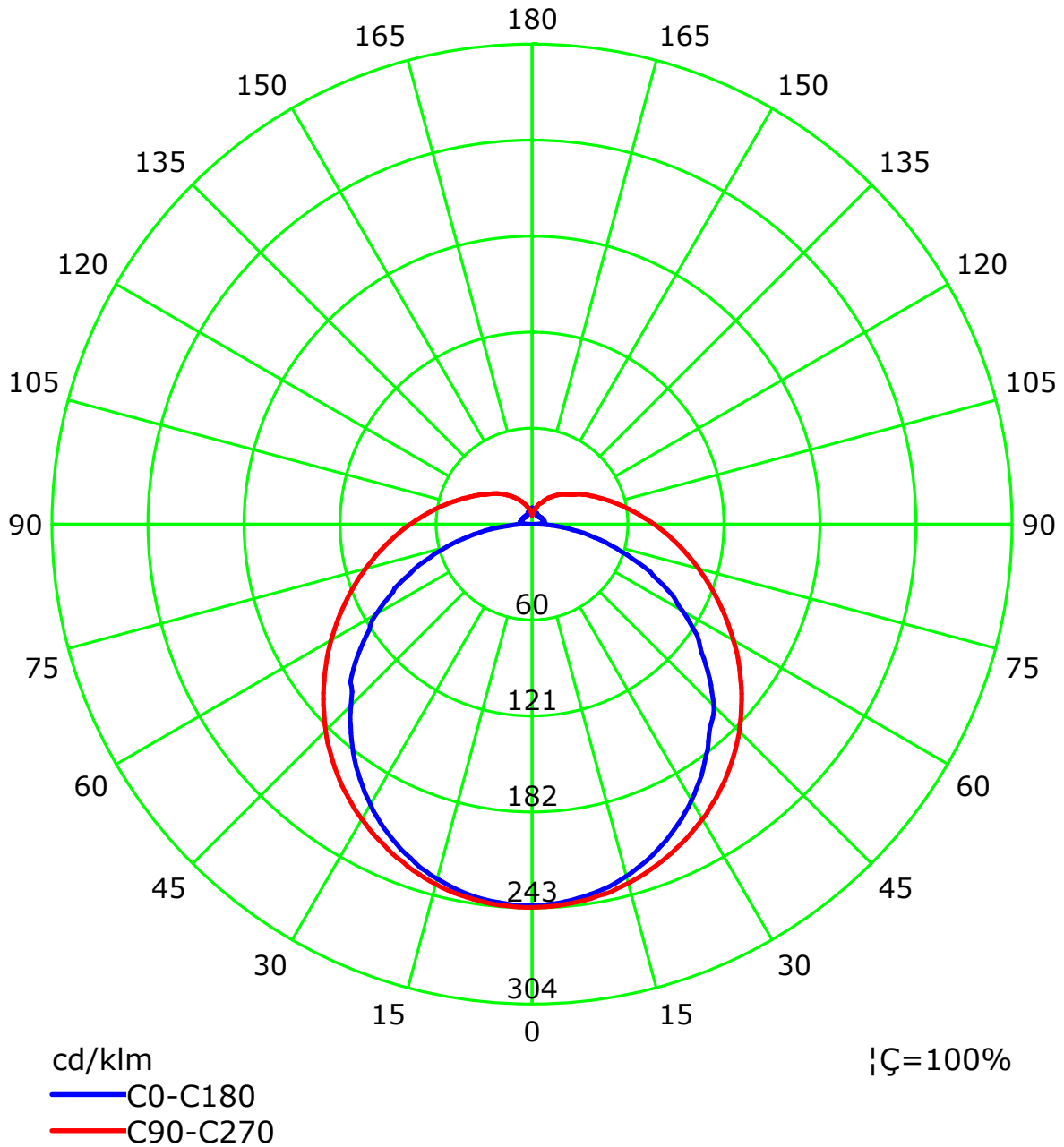
## Luminous Intensity Distribution Curve



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:

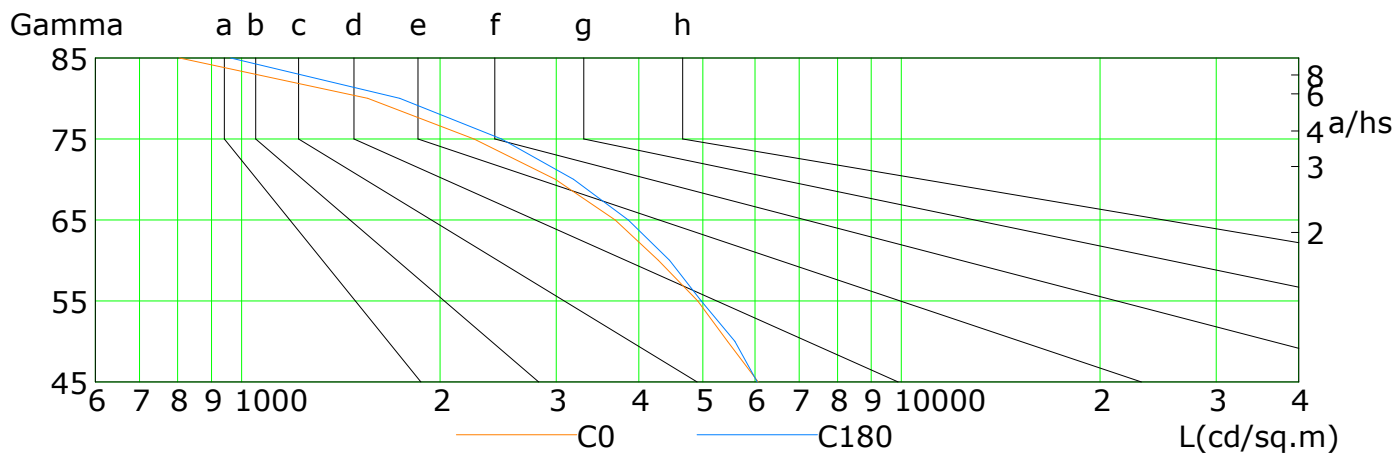
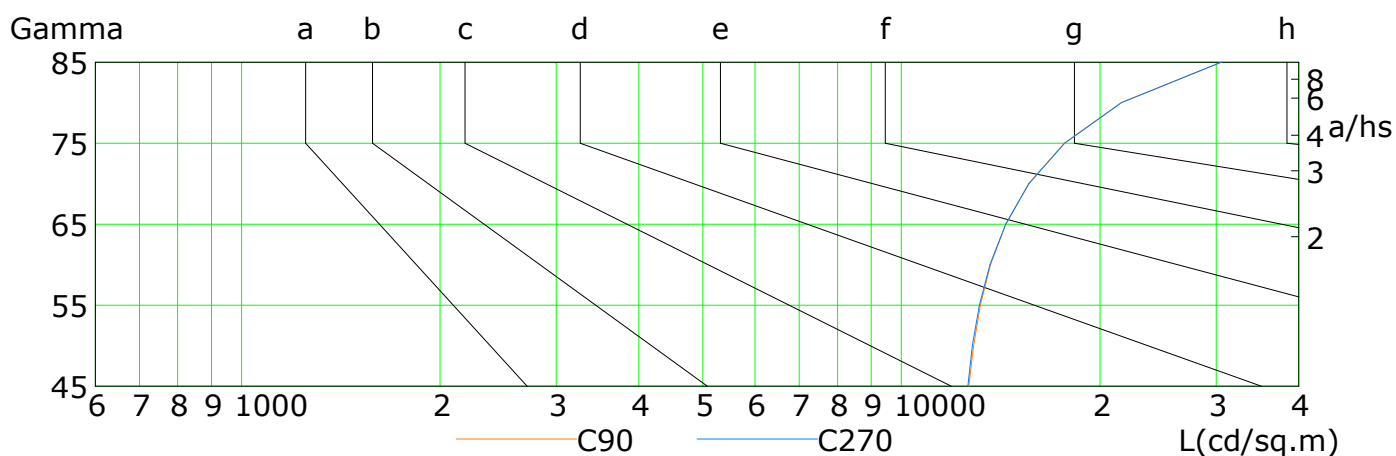
## Luminous Intensity Distribution Curve(cd/klm)



## 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

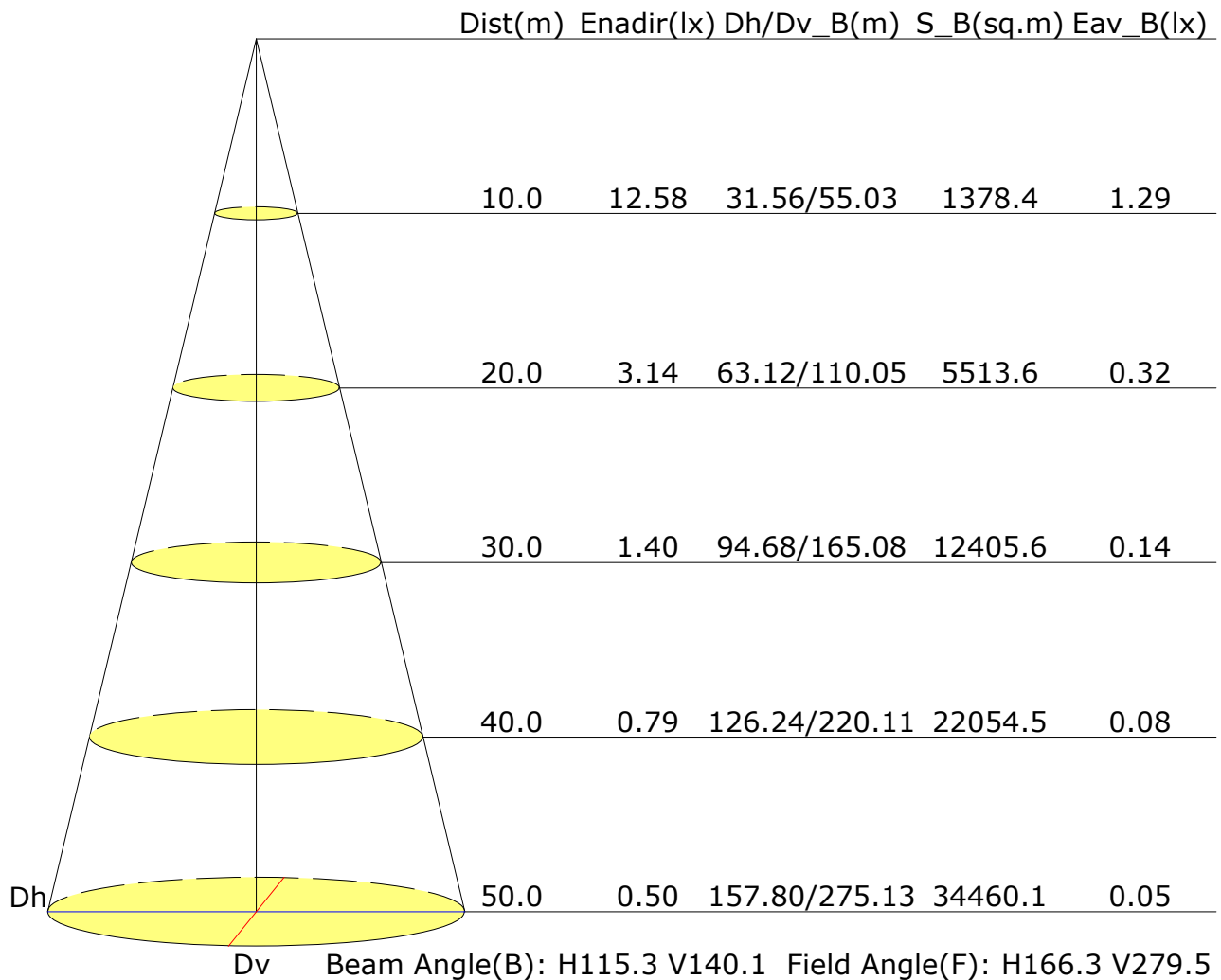


| L(cd/sq.m) | G45   | G50   | G55   | G60   | G65   | G70   | G75   | G80   | G85   |
|------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| C0         | 6068  | 5449  | 4914  | 4283  | 3682  | 2989  | 2249  | 1553  | 806   |
| C90        | 12656 | 12860 | 13175 | 13648 | 14411 | 15600 | 17679 | 21549 | 30542 |
| C180       | 6049  | 5591  | 4974  | 4452  | 3855  | 3186  | 2478  | 1737  | 963   |
| C270       | 12614 | 12814 | 13129 | 13623 | 14380 | 15608 | 17665 | 21549 | 30493 |

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                                          | 17.0             | 18.3 | 17.5 | 18.8 | 19.3 | 19.7           | 21.0 | 20.2 | 21.5 | 22.0 |
| 3H                                                 | 18.2             | 19.3 | 18.7 | 19.9 | 20.5 | 22.0           | 23.2 | 22.6 | 23.7 | 24.3 |
| 4H                                                 | 18.6             | 19.7 | 19.1 | 20.2 | 20.8 | 23.3           | 24.4 | 23.8 | 24.9 | 25.5 |
| 6H                                                 | 18.8             | 19.9 | 19.4 | 20.4 | 21.1 | 24.6           | 25.6 | 25.2 | 26.2 | 26.9 |
| 8H                                                 | 18.9             | 19.9 | 19.5 | 20.5 | 21.1 | 25.3           | 26.3 | 25.9 | 26.9 | 27.6 |
| 12H                                                | 18.9             | 19.9 | 19.5 | 20.4 | 21.1 | 26.1           | 27.1 | 26.7 | 27.7 | 28.3 |
| X=4H Y=2H                                          | 17.9             | 19.0 | 18.4 | 19.5 | 20.1 | 20.0           | 21.1 | 20.6 | 21.6 | 22.3 |
| 3H                                                 | 19.3             | 20.2 | 19.9 | 20.8 | 21.5 | 22.5           | 23.4 | 23.1 | 24.0 | 24.7 |
| 4H                                                 | 19.8             | 20.6 | 20.4 | 21.2 | 21.9 | 23.9           | 24.7 | 24.5 | 25.4 | 26.1 |
| 6H                                                 | 20.1             | 20.9 | 20.8 | 21.5 | 22.3 | 25.4           | 26.2 | 26.0 | 26.8 | 27.5 |
| 8H                                                 | 20.2             | 21.0 | 20.9 | 21.6 | 22.3 | 26.2           | 26.9 | 26.9 | 27.6 | 28.3 |
| 12H                                                | 20.3             | 20.9 | 21.0 | 21.6 | 22.4 | 27.1           | 27.8 | 27.8 | 28.4 | 29.2 |
| X=8H Y=4H                                          | 20.4             | 21.1 | 21.1 | 21.8 | 22.5 | 24.0           | 24.7 | 24.7 | 25.4 | 26.1 |
| 6H                                                 | 21.0             | 21.6 | 21.7 | 22.2 | 23.0 | 25.7           | 26.3 | 26.4 | 26.9 | 27.7 |
| 8H                                                 | 21.2             | 21.7 | 21.9 | 22.4 | 23.2 | 26.6           | 27.1 | 27.3 | 27.8 | 28.6 |
| 12H                                                | 21.3             | 21.8 | 22.0 | 22.5 | 23.3 | 27.7           | 28.1 | 28.4 | 28.8 | 29.7 |
| X=12H Y=4H                                         | 20.6             | 21.2 | 21.3 | 21.9 | 22.7 | 24.0           | 24.6 | 24.7 | 25.3 | 26.0 |
| 6H                                                 | 21.3             | 21.8 | 22.0 | 22.5 | 23.3 | 25.7           | 26.2 | 26.4 | 26.9 | 27.7 |
| 8H                                                 | 21.5             | 22.0 | 22.3 | 22.7 | 23.5 | 26.7           | 27.1 | 27.4 | 27.8 | 28.7 |
| Variations with the observer position at spacings: |                  |      |      |      |      |                |      |      |      |      |
| S=1.0H                                             | +0.2/-0.2        |      |      |      |      | +0.3/-0.3      |      |      |      |      |
| S=1.5H                                             | +0.4/-0.5        |      |      |      |      | +0.5/-0.6      |      |      |      |      |
| S=2.0H                                             | +0.5/-1.0        |      |      |      |      | +0.9/-1.1      |      |      |      |      |

Calculate in accordance with CIE Pub.117. The table is revised with 5196lm ( $8\log(F/F_0) = 5.7$ ).

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 = 1.50 |      |      |      |      |      |      |      |      |  |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|-------|----------------|------|------|------|------|------|------|------|------|--|
| 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  | 0.51           | 0.59 | 0.66 | 0.71 | 0.78 | 0.83 | 0.87 | 0.92 | 0.95 |  |
|                                                                                                                                                                                   | 0.30 |       | 0.43           | 0.51 | 0.58 | 0.64 | 0.71 | 0.77 | 0.81 | 0.87 | 0.91 |  |
|                                                                                                                                                                                   | 0.20 |       | 0.38           | 0.45 | 0.52 | 0.58 | 0.66 | 0.72 | 0.76 | 0.82 | 0.87 |  |
| 0.50                                                                                                                                                                              | 0.50 | 0.20  | 0.48           | 0.55 | 0.62 | 0.66 | 0.73 | 0.77 | 0.80 | 0.85 | 0.88 |  |
|                                                                                                                                                                                   | 0.30 |       | 0.41           | 0.48 | 0.55 | 0.60 | 0.67 | 0.72 | 0.76 | 0.81 | 0.84 |  |
|                                                                                                                                                                                   | 0.20 |       | 0.36           | 0.43 | 0.50 | 0.55 | 0.62 | 0.68 | 0.72 | 0.77 | 0.81 |  |
| 0.30                                                                                                                                                                              | 0.50 | 0.20  | 0.45           | 0.52 | 0.58 | 0.62 | 0.68 | 0.72 | 0.75 | 0.79 | 0.81 |  |
|                                                                                                                                                                                   | 0.30 |       | 0.39           | 0.46 | 0.52 | 0.57 | 0.63 | 0.68 | 0.71 | 0.75 | 0.79 |  |
|                                                                                                                                                                                   | 0.20 |       | 0.35           | 0.41 | 0.48 | 0.52 | 0.59 | 0.64 | 0.67 | 0.72 | 0.76 |  |
| 0.00                                                                                                                                                                              | 0.00 | 0.00  | 0.32           | 0.37 | 0.43 | 0.47 | 0.53 | 0.57 | 0.60 | 0.65 | 0.68 |  |
| Rating:45W 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 = 1.50 |      |      |      |      |      |      |      |      |  |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|-------|----------------|------|------|------|------|------|------|------|------|--|
| 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  | 0.99           | 0.86 | 0.74 | 0.66 | 0.54 | 0.46 | 0.40 | 0.32 | 0.26 |  |
|                                                                                                                                                                                   | 0.30 |       | 0.83           | 0.73 | 0.65 | 0.58 | 0.49 | 0.42 | 0.37 | 0.30 | 0.25 |  |
|                                                                                                                                                                                   | 0.20 |       | 0.71           | 0.64 | 0.57 | 0.52 | 0.44 | 0.39 | 0.34 | 0.28 | 0.24 |  |
| 0.50                                                                                                                                                                              | 0.50 | 0.20  | 0.93           | 0.80 | 0.69 | 0.61 | 0.50 | 0.45 | 0.37 | 0.30 | 0.25 |  |
|                                                                                                                                                                                   | 0.30 |       | 0.79           | 0.69 | 0.61 | 0.55 | 0.46 | 0.39 | 0.35 | 0.28 | 0.24 |  |
|                                                                                                                                                                                   | 0.20 |       | 0.68           | 0.61 | 0.55 | 0.50 | 0.42 | 0.37 | 0.32 | 0.27 | 0.23 |  |
| 0.30                                                                                                                                                                              | 0.50 | 0.20  | 0.87           | 0.75 | 0.64 | 0.57 | 0.46 | 0.39 | 0.34 | 0.28 | 0.23 |  |
|                                                                                                                                                                                   | 0.30 |       | 0.74           | 0.66 | 0.57 | 0.51 | 0.43 | 0.37 | 0.32 | 0.26 | 0.22 |  |
|                                                                                                                                                                                   | 0.20 |       | 0.65           | 0.59 | 0.52 | 0.47 | 0.40 | 0.35 | 0.31 | 0.25 | 0.21 |  |
| 0.00                                                                                                                                                                              | 0.00 | 0.00  | 0.53           | 0.48 | 0.42 | 0.38 | 0.32 | 0.28 | 0.24 | 0.20 | 0.17 |  |
| Rating:45W 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 = 1.50 |      |      |      |      |      |      |      |      |  |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|-------|----------------|------|------|------|------|------|------|------|------|--|
| 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  | 0.31           | 0.33 | 0.34 | 0.34 | 0.35 | 0.36 | 0.36 | 0.36 | 0.37 |  |
|                                                                                                                                                                                   | 0.30 |       | 0.24           | 0.26 | 0.27 | 0.28 | 0.30 | 0.31 | 0.32 | 0.33 | 0.34 |  |
|                                                                                                                                                                                   | 0.20 |       | 0.19           | 0.21 | 0.22 | 0.23 | 0.25 | 0.27 | 0.28 | 0.29 | 0.31 |  |
| 0.50                                                                                                                                                                              | 0.50 | 0.20  | 0.30           | 0.32 | 0.32 | 0.33 | 0.34 | 0.34 | 0.34 | 0.35 | 0.35 |  |
|                                                                                                                                                                                   | 0.30 |       | 0.24           | 0.25 | 0.27 | 0.27 | 0.29 | 0.30 | 0.31 | 0.32 | 0.32 |  |
|                                                                                                                                                                                   | 0.20 |       | 0.19           | 0.21 | 0.22 | 0.23 | 0.25 | 0.26 | 0.27 | 0.29 | 0.30 |  |
| 0.30                                                                                                                                                                              | 0.50 | 0.20  | 0.29           | 0.30 | 0.31 | 0.32 | 0.32 | 0.33 | 0.33 | 0.33 | 0.34 |  |
|                                                                                                                                                                                   | 0.30 |       | 0.23           | 0.25 | 0.26 | 0.27 | 0.28 | 0.29 | 0.30 | 0.31 | 0.31 |  |
|                                                                                                                                                                                   | 0.20 |       | 0.19           | 0.20 | 0.22 | 0.23 | 0.24 | 0.25 | 0.26 | 0.28 | 0.29 |  |
| 0.00                                                                                                                                                                              | 0.00 | 0.00  | 0.15           | 0.15 | 0.15 | 0.15 | 0.15 | 0.15 | 0.15 | 0.15 | 0.15 |  |
| Rating:45W Photometrically tested without ceiling board.<br>Multiply UF values by service correction factors<br>Calculate in accordance with CIBSE Technical Memorandum NO.5 1980 |      |       |                |      |      |      |      |      |      |      |      |  |