

Report No.:

Test Time: 04.08.2020 15:16

## Luminaire Property

Luminaire Manufacturer:

Luminaire Description: FI 135 40LED 0.39A 49W 5000K prozrachniy

Number of Lamps: 1

Luminous Length (mm): 1262

Luminous Width (mm): 124

Luminous Height (mm): 85

Voltage: 221.3 V

Current: 0.166 A

Power: 49.31 W

Power Factor: 0.990

## Photometric Results

CIE Class: Direct

Total Rated Lamp Lumens: 6559.9 lm

Measurement Flux: 6559.9 lm

Efficiency: 100%

Downward Ratio: 98%

Upward Ratio: 2%

Field Angle(C0/C180,C90/C270,C45/C225,C135/315): 154.1, 165.2, 165.3, 165.4

Beam Angle(C0/C180,C90/C270,C45/C225,C135/315): 108.6, 91.5, 100.8, 101.6

Luminaire Efficacy Rating (LER): 133.08

Central Intensity: 2531.21 cd

Max. Intensity: 2767.62 cd

Pos of Max. Intensity: H112.5 V18

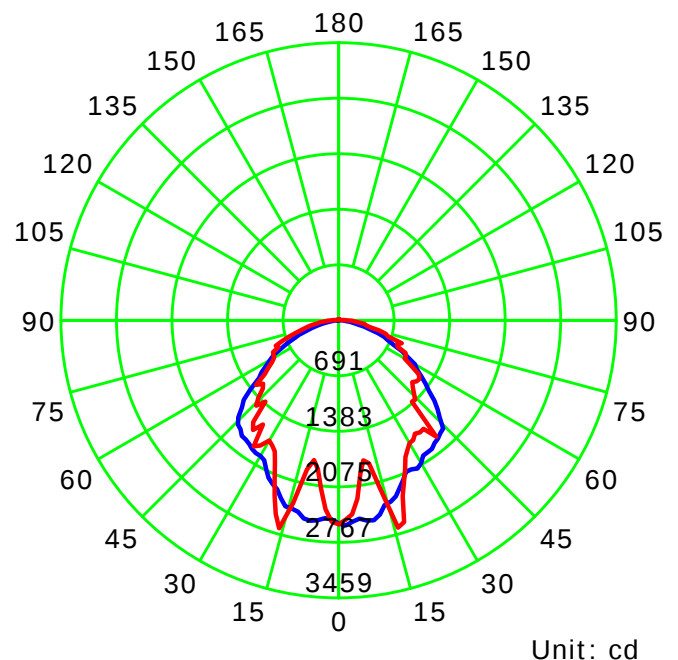
S/MH(C0/C180): 1.19

S/MH(C90/C270): 1.04

Picture Of Luminaire



Luminous Intensity Distribution Curve



— C0-C180 — C90-C270

C Plane (°):0.0-360.0: 22.5

Test Lab:

Test Type: TYPE C

Temperature:

Operator:

Gamma Plane (°):0.0-180.0:2.0

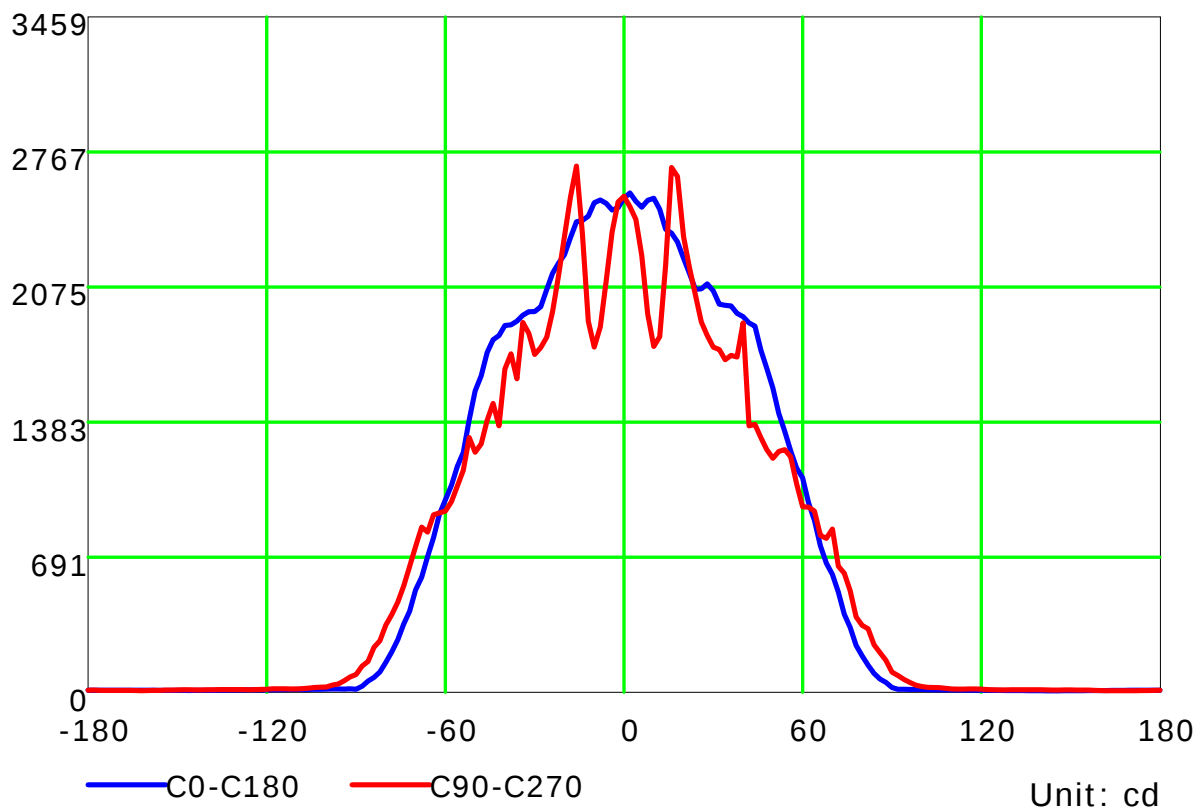
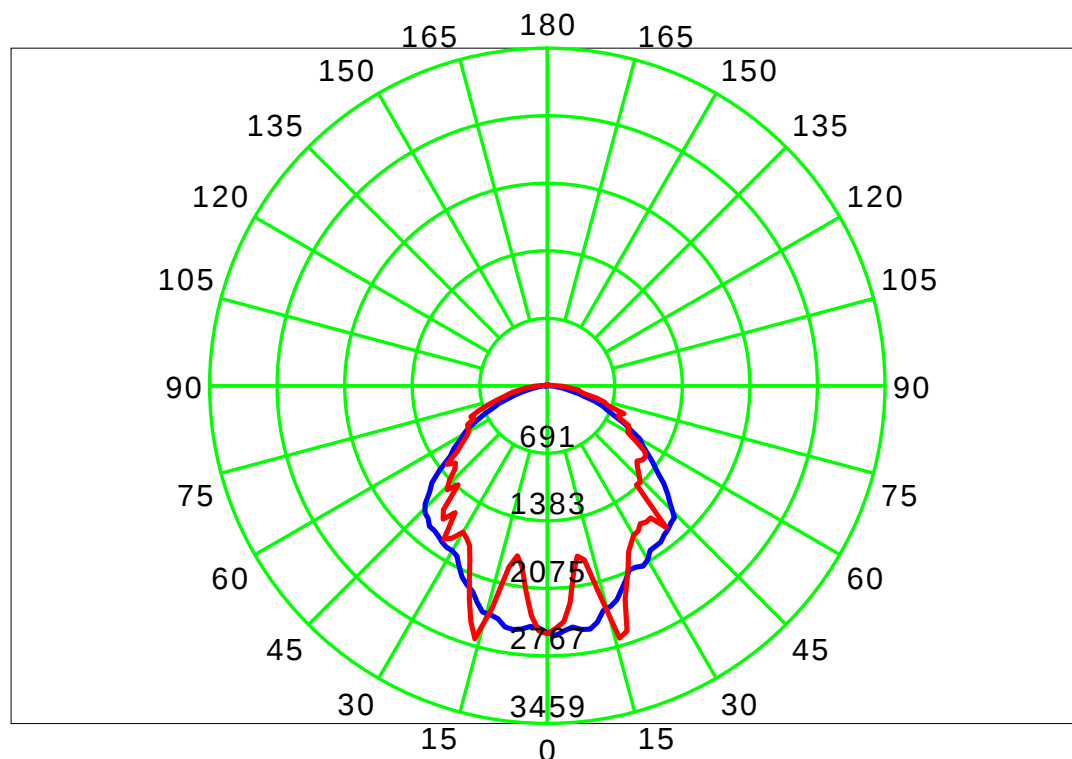
Test Device: LSG-1800B

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 (°):0.0-180.0:2.0

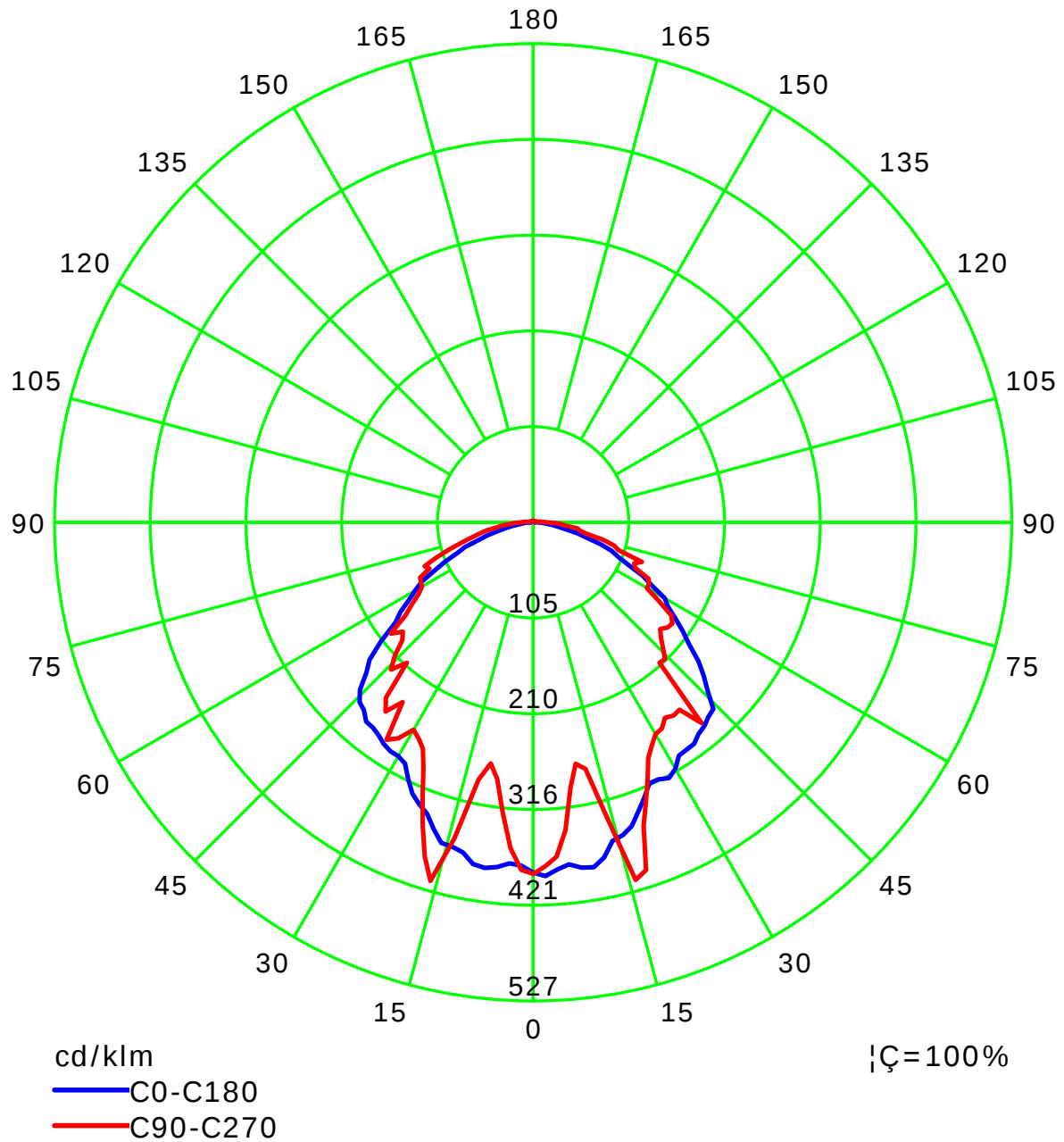
Test Device: LSG-1800B

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: 2.0

Test Device: LSG-1800B

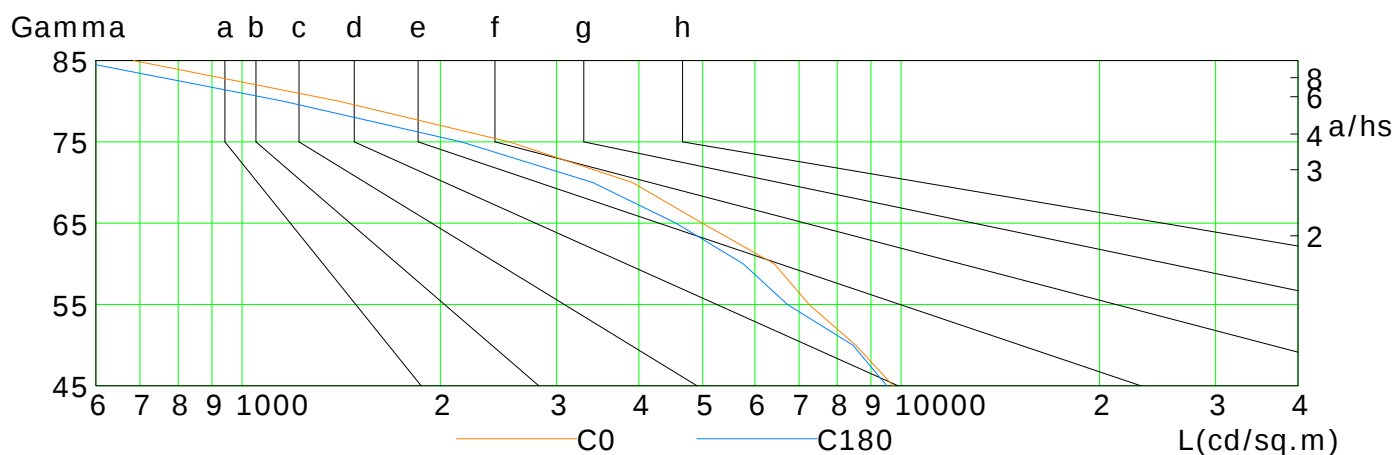
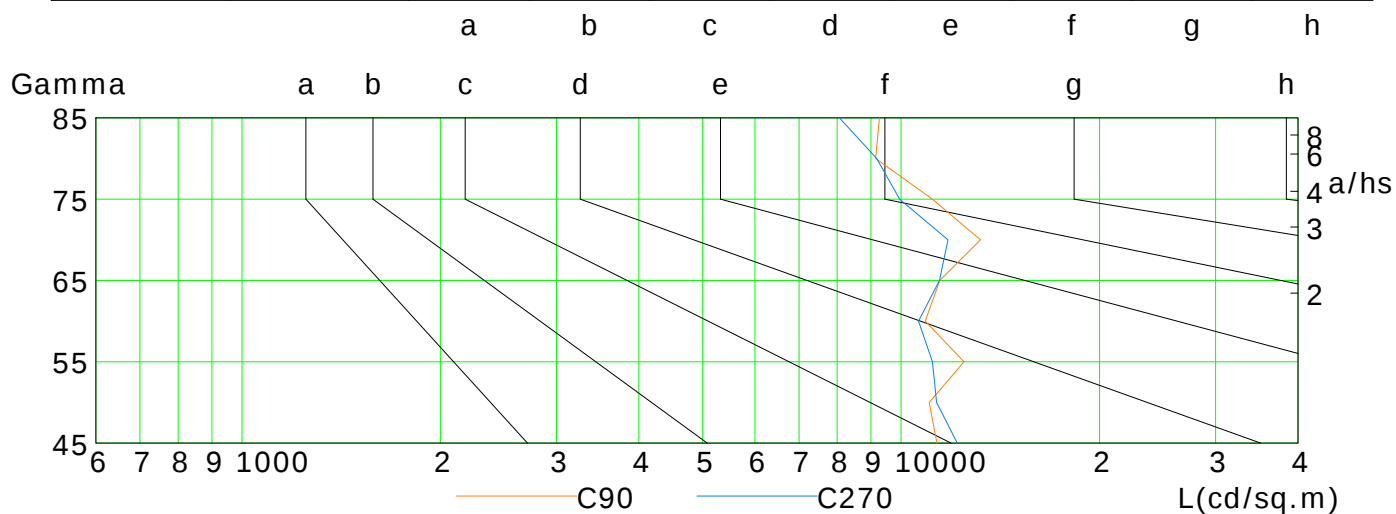
Distance: 12.677 m

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 |



| L(cd/sq.m) | G45   | G50   | G55   | G60   | G65   | G70   | G75   | G80  | G85  |
|------------|-------|-------|-------|-------|-------|-------|-------|------|------|
| C0         | 9729  | 8530  | 7248  | 6418  | 4992  | 3911  | 2543  | 1403 | 684  |
| C90        | 11333 | 11034 | 12452 | 10876 | 11444 | 13192 | 11154 | 9144 | 9269 |
| C180       | 9510  | 8450  | 6720  | 5761  | 4555  | 3404  | 2152  | 1155 | 557  |
| C270       | 12164 | 11320 | 11154 | 10627 | 11433 | 11775 | 9948  | 9181 | 8062 |

C Plane (°):0.0-360.0: 22.5

Test Lab:

Test Type: TYPE C

Temperature:

Operator:

Gamma Plane (°):0.0-180.0:2.0

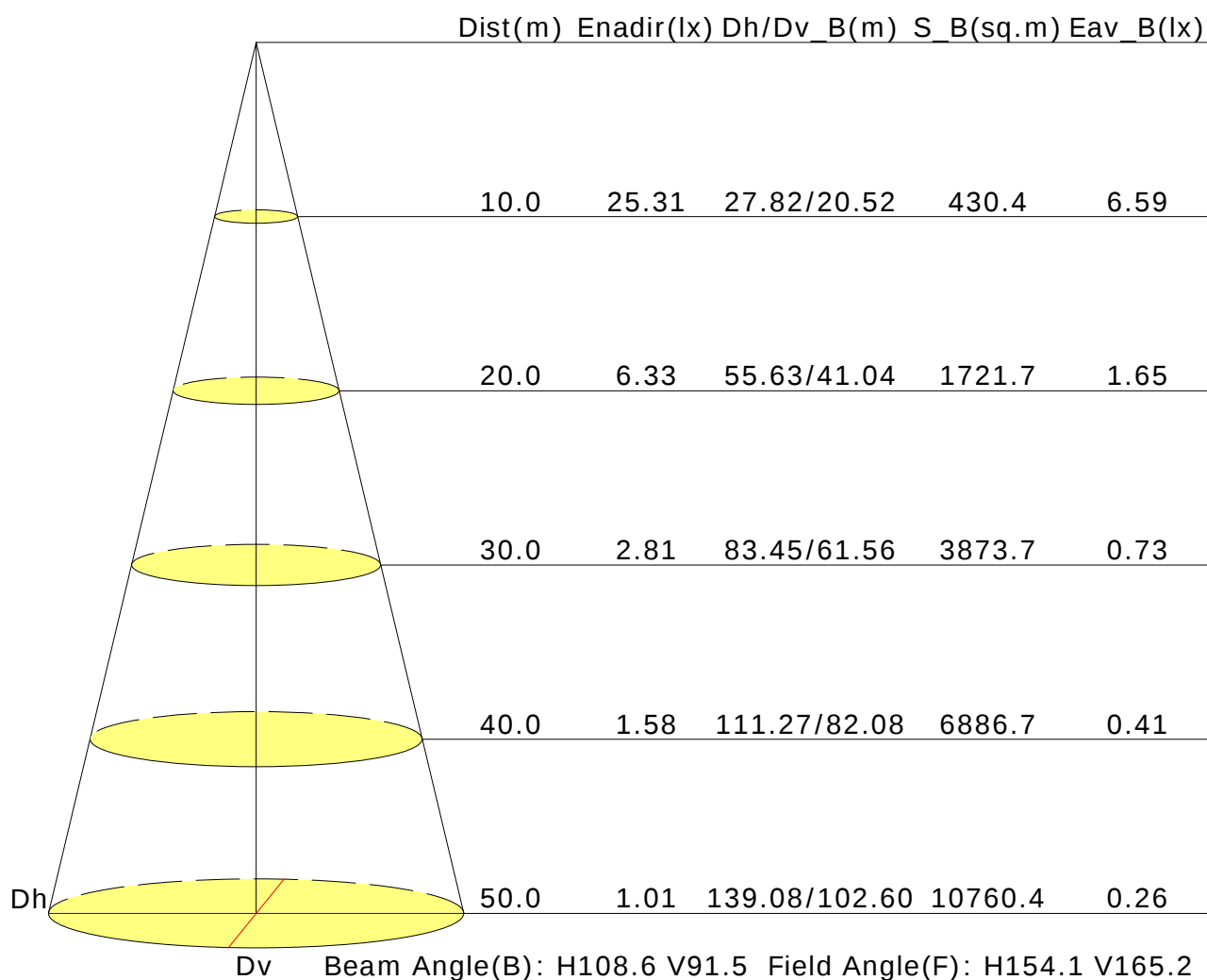
Test Device: LSG-1800B

Distance: 12.677 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                                          | 19.2             | 20.5 | 19.5 | 20.8 | 21.1 | 19.9           | 21.3 | 20.2 | 21.5 | 21.8 |
| 3H                                                 | 20.1             | 21.4 | 20.5 | 21.7 | 22.0 | 21.9           | 23.2 | 22.3 | 23.5 | 23.8 |
| 4H                                                 | 20.4             | 21.6 | 20.8 | 21.9 | 22.2 | 22.7           | 23.9 | 23.1 | 24.2 | 24.6 |
| 6H                                                 | 20.5             | 21.6 | 20.9 | 22.0 | 22.3 | 23.3           | 24.4 | 23.7 | 24.7 | 25.1 |
| 8H                                                 | 20.5             | 21.6 | 20.9 | 21.9 | 22.3 | 23.5           | 24.6 | 23.9 | 24.9 | 25.3 |
| 12H                                                | 20.5             | 21.5 | 20.9 | 21.9 | 22.3 | 23.7           | 24.7 | 24.1 | 25.1 | 25.5 |
| X=4H Y=2H                                          | 19.7             | 20.8 | 20.0 | 21.2 | 21.5 | 20.3           | 21.4 | 20.6 | 21.8 | 22.1 |
| 3H                                                 | 20.8             | 21.8 | 21.2 | 22.2 | 22.5 | 22.5           | 23.5 | 22.9 | 23.9 | 24.2 |
| 4H                                                 | 21.2             | 22.1 | 21.6 | 22.5 | 22.9 | 23.4           | 24.3 | 23.8 | 24.7 | 25.1 |
| 6H                                                 | 21.4             | 22.2 | 21.8 | 22.6 | 23.0 | 24.1           | 24.9 | 24.5 | 25.3 | 25.8 |
| 8H                                                 | 21.4             | 22.2 | 21.9 | 22.6 | 23.1 | 24.4           | 25.1 | 24.8 | 25.6 | 26.0 |
| 12H                                                | 21.4             | 22.1 | 21.9 | 22.6 | 23.0 | 24.6           | 25.3 | 25.1 | 25.8 | 26.2 |
| X=8H Y=4H                                          | 21.5             | 22.3 | 22.0 | 22.7 | 23.2 | 23.5           | 24.3 | 24.0 | 24.7 | 25.2 |
| 6H                                                 | 21.9             | 22.5 | 22.4 | 22.9 | 23.4 | 24.3           | 24.9 | 24.8 | 25.4 | 25.9 |
| 8H                                                 | 22.0             | 22.5 | 22.5 | 23.0 | 23.5 | 24.7           | 25.2 | 25.2 | 25.7 | 26.3 |
| 12H                                                | 22.0             | 22.5 | 22.5 | 23.0 | 23.5 | 25.0           | 25.5 | 25.6 | 26.0 | 26.6 |
| X=12H Y=4H                                         | 21.6             | 22.3 | 22.1 | 22.7 | 23.2 | 23.5           | 24.2 | 24.0 | 24.6 | 25.1 |
| 6H                                                 | 22.0             | 22.5 | 22.5 | 23.0 | 23.5 | 24.3           | 24.9 | 24.9 | 25.4 | 25.9 |
| 8H                                                 | 22.1             | 22.6 | 22.6 | 23.1 | 23.6 | 24.7           | 25.2 | 25.3 | 25.7 | 26.3 |
| Variations with the observer position at spacings: |                  |      |      |      |      |                |      |      |      |      |
| S=1.0H                                             | +0.5/-0.4        |      |      |      |      | +0.1/-0.2      |      |      |      |      |
| S=1.5H                                             | +0.8/-0.6        |      |      |      |      | +0.4/-0.5      |      |      |      |      |
| S=2.0H                                             | +1.5/-1.5        |      |      |      |      | +0.6/-0.7      |      |      |      |      |

Calculate in accordance with CIE Pub.117. The table is revised with 6560lm ( $8\log(F/F_0) = 6.5$ ).

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: 12.677 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           | 0.66 | 0.73 | 0.79 | 0.86 | 0.91 | 0.94 | 0.99 | 1.02 |  |
|                                                                                                                                                                                                  | 0.30 |       | 0.48           | 0.58 | 0.66 | 0.71 | 0.79 | 0.85 | 0.89 | 0.95 | 0.98 |  |
|                                                                                                                                                                                                  | 0.20 |       | 0.42           | 0.52 | 0.60 | 0.66 | 0.74 | 0.80 | 0.85 | 0.91 | 0.95 |  |
| 0.50                                                                                                                                                                                             | 0.50 | 0.20  | 0.54           | 0.64 | 0.71 | 0.76 | 0.82 | 0.87 | 0.90 | 0.95 | 0.97 |  |
|                                                                                                                                                                                                  | 0.30 |       | 0.47           | 0.57 | 0.64 | 0.69 | 0.77 | 0.82 | 0.86 | 0.91 | 0.94 |  |
|                                                                                                                                                                                                  | 0.20 |       | 0.42           | 0.52 | 0.59 | 0.64 | 0.72 | 0.78 | 0.82 | 0.88 | 0.92 |  |
| 0.30                                                                                                                                                                                             | 0.50 | 0.20  | 0.52           | 0.62 | 0.68 | 0.73 | 0.79 | 0.83 | 0.87 | 0.91 | 0.93 |  |
|                                                                                                                                                                                                  | 0.30 |       | 0.46           | 0.56 | 0.62 | 0.68 | 0.75 | 0.79 | 0.83 | 0.88 | 0.91 |  |
|                                                                                                                                                                                                  | 0.20 |       | 0.41           | 0.51 | 0.58 | 0.63 | 0.71 | 0.76 | 0.80 | 0.85 | 0.88 |  |
| 0.00                                                                                                                                                                                             | 0.00 | 0.00  | 0.39           | 0.48 | 0.55 | 0.60 | 0.67 | 0.72 | 0.75 | 0.80 | 0.83 |  |
| <p>Rating:49W 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 | 0.71 | 0.62 | 0.50 | 0.42 | 0.36 | 0.28 | 0.23 |  |
|                                                                                                                                                                                   | 0.30 |       | 0.83           | 0.71 | 0.62 | 0.55 | 0.45 | 0.38 | 0.33 | 0.26 | 0.22 |  |
|                                                                                                                                                                                   | 0.20 |       | 0.72           | 0.62 | 0.55 | 0.49 | 0.41 | 0.35 | 0.31 | 0.25 | 0.21 |  |
| 0.50                                                                                                                                                                              | 0.50 | 0.20  | 0.96           | 0.79 | 0.68 | 0.59 | 0.47 | 0.43 | 0.34 | 0.26 | 0.22 |  |
|                                                                                                                                                                                   | 0.30 |       | 0.81           | 0.69 | 0.60 | 0.53 | 0.43 | 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 |  |
| 0.30                                                                                                                                                                              | 0.50 | 0.20  | 0.93           | 0.76 | 0.65 | 0.57 | 0.45 | 0.38 | 0.32 | 0.25 | 0.21 |  |
|                                                                                                                                                                                   | 0.30 |       | 0.79           | 0.67 | 0.58 | 0.51 | 0.42 | 0.35 | 0.30 | 0.24 | 0.20 |  |
|                                                                                                                                                                                   | 0.20 |       | 0.69           | 0.60 | 0.53 | 0.47 | 0.39 | 0.33 | 0.29 | 0.23 | 0.19 |  |
| 0.00                                                                                                                                                                              | 0.00 | 0.00  | 0.59           | 0.50 | 0.43 | 0.38 | 0.31 | 0.26 | 0.23 | 0.18 | 0.15 |  |
| Rating:49W 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           | 0.20 | 0.21 | 0.21 | 0.22 | 0.23 | 0.23 | 0.24 | 0.24 |  |
|                                                                                                                                                                                   | 0.30 |       | 0.11           | 0.13 | 0.14 | 0.15 | 0.17 | 0.18 | 0.19 | 0.20 | 0.21 |  |
|                                                                                                                                                                                   | 0.20 |       | 0.07           | 0.08 | 0.10 | 0.11 | 0.13 | 0.15 | 0.16 | 0.17 | 0.19 |  |
| 0.50                                                                                                                                                                              | 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           | 0.13 | 0.14 | 0.15 | 0.17 | 0.18 | 0.18 | 0.20 | 0.20 |  |
|                                                                                                                                                                                   | 0.20 |       | 0.07           | 0.08 | 0.10 | 0.11 | 0.13 | 0.14 | 0.15 | 0.17 | 0.18 |  |
| 0.30                                                                                                                                                                              | 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           | 0.13 | 0.14 | 0.15 | 0.16 | 0.17 | 0.18 | 0.19 | 0.20 |  |
|                                                                                                                                                                                   | 0.20 |       | 0.07           | 0.08 | 0.09 | 0.11 | 0.12 | 0.14 | 0.15 | 0.16 | 0.18 |  |
| 0.00                                                                                                                                                                              | 0.00 | 0.00  | 0.02           | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 |  |
| Rating:49W Photometrically tested without ceiling board.<br>Multiply UF values by service correction factors<br>Calculate in accordance with CIBSE Technical Memorandum NO.5 1980 |      |       |                |      |      |      |      |      |      |      |      |  |