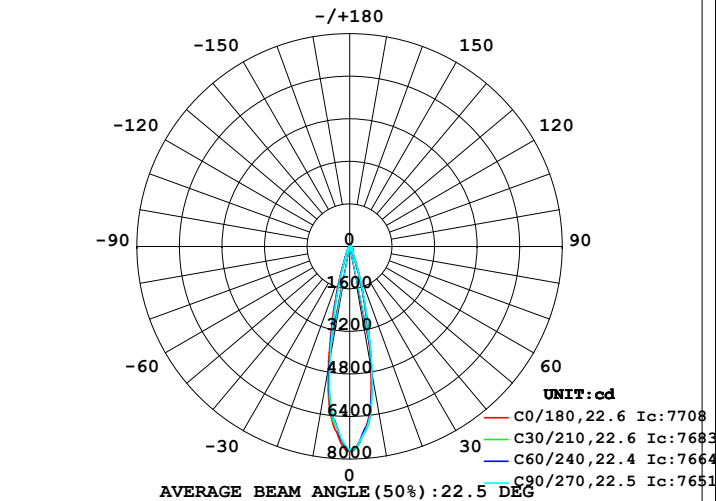


## LUMINAIRE PHOTOMETRIC TEST REPORT

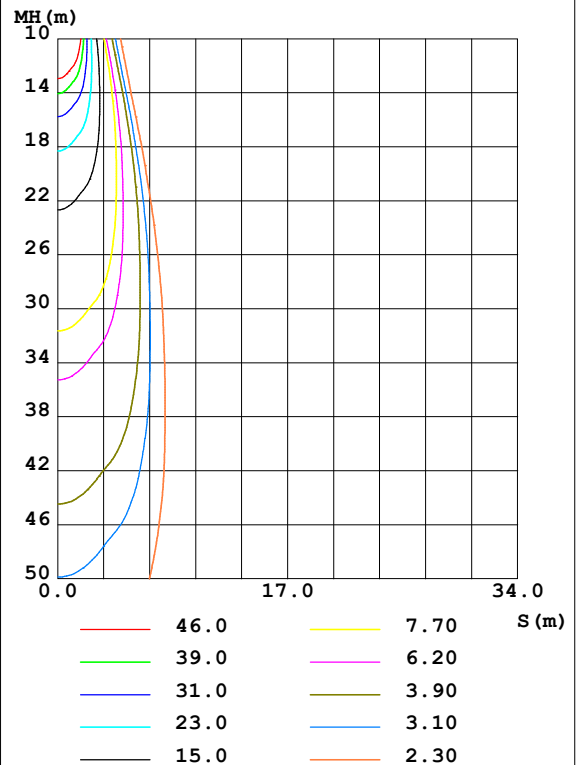
|   |  |         |  |                  |  |
|---|--|---------|--|------------------|--|
| Test:U:225.0V I:0.0910A P:20.10W PF:0.9780 Freq:50.00Hz Lamp Flux:1596.1x1 lm |  |         |  |                  |  |
| NAME: TL45-20G27-24-M   |  | TYPE:   |  | WEIGHT:          |  |
| SPEC.:  |  | DIM.:   |  | SERIAL No.:      |  |
| MFR.:   |  | SUR.:80 |  | Shielding Angle: |  |

| DATA OF LAMP     |             | PHOTOMETRIC DATA      |        |                   |          | Eff: 79.41 lm/W |
|------------------|-------------|-----------------------|--------|-------------------|----------|-----------------|
| MODEL            | 2700K CRI90 | I <sub>max</sub> (cd) | 7708   | S/MH(C0/180)      | 0.38     |                 |
| NOMINAL POWER(W) | 20          | LOR(%)                | 100.0  | S/MH(C90/270)     | 0.36     |                 |
| RATED VOLTAGE(V) | 230         | TOTAL FLUX(lm)        | 1596.1 | η UP,DN(C0-180)   | 2.3,49.0 |                 |
| NOMINAL FLUX(lm) | 1596.1      | CIE CLASS             | DIRECT | η UP,DN(C180-360) | 1.9,46.8 |                 |
| LAMPS INSIDE     | 1           | η up(%)               | 4.2    | CIBSE SHR NOM     | 0.00     |                 |
| TEST VOLTAGE(V)  | 225         | η down(%)             | 95.8   | CIBSE SHR MAX     | 1.00     |                 |

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



C0 PLANE ISOLUX DIAGRAM (UNIT:lx)



C Range: 0 - 360DEG  
 C Interval: 10.0DEG  
 Test Speed: HIGH  
 Temperature: 25.3DEG  
 Operators: ZR  
 Test Date: 2021-03-15

γ Range: 0 - 180DEG  
 γ Interval: 0.5DEG  
 Test System: EVERFINE GO-2000B\_V1 SYSTEM V2.0.354  
 Humidity: 65.0%  
 Test Distance: 7.028m [K=1.0000]  
 Remarks:

## ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

| $\gamma$ | C0                    | C45   | C90   | C135  | C180   | C225   | C270   | C315   | $\gamma$ | $\Phi$ zone | $\Phi$ total | %lum, lamp |
|----------|-----------------------|-------|-------|-------|--------|--------|--------|--------|----------|-------------|--------------|------------|
| 10       | 4633                  | 4791  | 4832  | 4649  | 4635   | 4376   | 4273   | 4480   | 0- 10    | 581.7       | 581.7        | 36.4, 36.4 |
| 20       | 707.2                 | 761.9 | 810.5 | 748.7 | 748.6  | 663.8  | 639.4  | 658.1  | 10- 20   | 580.0       | 1162         | 72.8, 72.8 |
| 30       | 186.2                 | 179.5 | 173.4 | 173.1 | 182.7  | 177.4  | 174.5  | 180.2  | 20- 30   | 152.8       | 1315         | 82.4, 82.4 |
| 40       | 105.7                 | 88.82 | 81.78 | 92.14 | 108.5  | 104.2  | 101.7  | 102.1  | 30- 40   | 80.10       | 1395         | 87.4, 87.4 |
| 50       | 54.49                 | 54.24 | 48.42 | 53.97 | 55.59  | 54.96  | 54.00  | 54.50  | 40- 50   | 59.18       | 1454         | 91.1, 91.1 |
| 60       | 38.82                 | 36.87 | 35.85 | 36.34 | 38.43  | 38.39  | 37.16  | 39.19  | 50- 60   | 39.32       | 1493         | 93.5, 93.5 |
| 70       | 15.87                 | 16.45 | 16.91 | 15.93 | 15.74  | 14.91  | 14.63  | 15.10  | 60- 70   | 24.86       | 1518         | 95.1, 95.1 |
| 80       | 2.993                 | 3.226 | 3.435 | 3.039 | 2.726  | 2.176  | 2.127  | 2.386  | 70- 80   | 9.541       | 1528         | 95.7, 95.7 |
| 90       | 1.625                 | 1.624 | 1.623 | 1.609 | 0.7434 | 0.7120 | 0.6932 | 0.6986 | 80- 90   | 1.411       | 1529         | 95.8, 95.8 |
| 100      | 2.241                 | 2.226 | 2.202 | 2.219 | 0.9815 | 0.9439 | 0.9137 | 0.9217 | 90-100   | 1.448       | 1530         | 95.9, 95.9 |
| 110      | 3.486                 | 3.436 | 3.401 | 3.430 | 2.026  | 2.024  | 2.011  | 1.989  | 100-110  | 2.168       | 1533         | 96, 96     |
| 120      | 6.631                 | 6.479 | 6.341 | 6.444 | 5.026  | 5.106  | 5.102  | 5.047  | 110-120  | 3.977       | 1537         | 96.3, 96.3 |
| 130      | 11.88                 | 11.66 | 11.50 | 11.60 | 9.898  | 9.920  | 9.913  | 9.880  | 120-130  | 7.305       | 1544         | 96.7, 96.7 |
| 140      | 16.46                 | 16.30 | 16.18 | 16.21 | 14.10  | 14.02  | 13.98  | 13.98  | 130-140  | 10.10       | 1554         | 97.4, 97.4 |
| 150      | 21.32                 | 20.96 | 20.76 | 20.88 | 18.90  | 18.98  | 19.03  | 18.88  | 140-150  | 10.75       | 1565         | 98, 98     |
| 160      | 39.05                 | 37.81 | 37.20 | 37.81 | 32.35  | 32.84  | 33.01  | 32.55  | 150-160  | 11.91       | 1577         | 98.8, 98.8 |
| 170      | 68.61                 | 67.77 | 67.21 | 67.46 | 53.05  | 53.13  | 52.99  | 52.56  | 160-170  | 13.28       | 1590         | 99.6, 99.6 |
| 180      | 73.15                 | 72.98 | 72.52 | 71.90 | 73.18  | 72.98  | 72.46  | 71.89  | 170-180  | 6.236       | 1596         | 100, 100   |
| DEG      | LUMINOUS INTENSITY:cd |       |       |       |        |        |        |        |          | UNIT:lm     |              |            |

Conical surface Flux(90deg): 1427.7 lm

%lum = 89.5%

%lamp = 89.5%

Conical surface Flux(120deg): 1493.1 lm

%lum = 93.5%

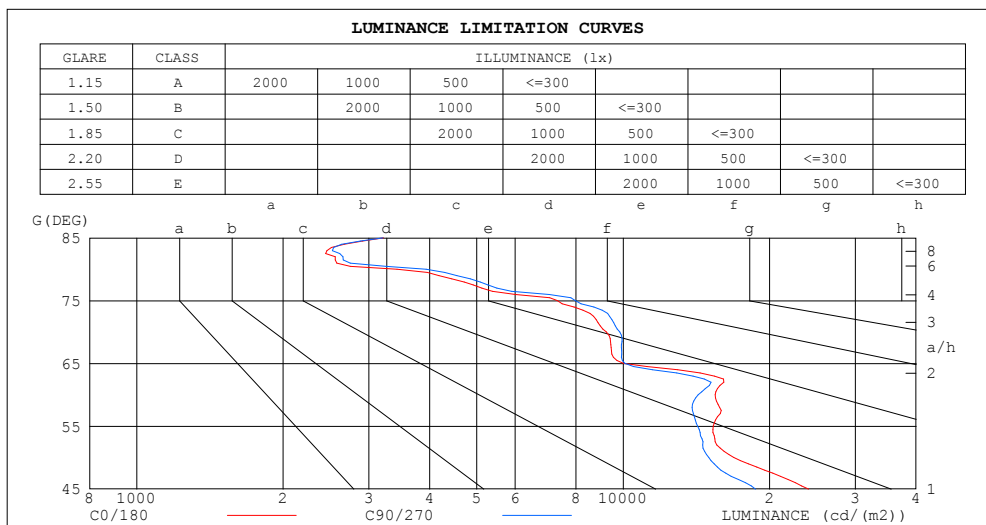
%lamp = 93.5%

C Range: 0 - 360DEG  
 C Interval: 10.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:ZR  
 Test Date:2021-03-15

$\gamma$  Range: 0 - 180DEG  
 $\gamma$  Interval: 0.5DEG  
 Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.354  
 Humidity:65.0%  
 Test Distance:7.028m [K=1.0000]  
 Remarks:

## LUMINANCE LIMITATION CURVES

|   |         |                  |
|---|---------|------------------|
| Test:U:225.0V I:0.0910A P:20.10W PF:0.9780 Freq:50.00Hz Lamp Flux:1596.1x1 lm |         |                  |
| NAME: TL45-20G27-24-M   | TYPE:   | WEIGHT:          |
| SPEC.:  | DIM.:   | SERIAL No.:      |
| MFR.:   | SUR.:80 | Shielding Angle: |



| LUMINANCE cd/(m2) |        |         |
|-------------------|--------|---------|
| G (DEG)           | C0/180 | C90/270 |
| 85                | 3216   | 3209    |
| 80                | 3430   | 3937    |
| 75                | 7322   | 7967    |
| 70                | 9237   | 9840    |
| 65                | 10006  | 10081   |
| 60                | 15453  | 14270   |
| 55                | 15327  | 14224   |
| 50                | 16873  | 14993   |
| 45                | 24049  | 18711   |

C Range: 0 - 360DEG  
C Interval: 10.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:ZR  
Test Date:2021-03-15

$\gamma$  Range: 0 - 180DEG  
 $\gamma$  Interval: 0.5DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.354  
Humidity:65.0%  
Test Distance:7.028m [K=1.0000]  
Remarks:

## WEC AND CCEC

|   |  |  |         |  |                  |
|---|--|--|---------|--|------------------|
| Test:U:225.0V I:0.0910A P:20.10W PF:0.9780 Freq:50.00Hz Lamp Flux:1596.1x1 lm |  |  |         |  |                  |
| NAME: TL45-20G27-24-M   |  |  | TYPE:   |  | WEIGHT:          |
| SPEC.:  |  |  | DIM.:   |  | SERIAL No.:      |
| MFR.:   |  |  | SUR.:80 |  | Shielding Angle: |

| pcc  | 80%                   |      |      | 70%  |      |      | 50%                            |      |      | 30%  |      |      | 10%  |      |      | 0 |  |
|------|-----------------------|------|------|------|------|------|--------------------------------|------|------|------|------|------|------|------|------|---|--|
| pw   | 50%                   | 30%  | 10%  | 50%  | 30%  | 10%  | 50%                            | 30%  | 10%  | 50%  | 30%  | 10%  | 50%  | 30%  | 10%  | 0 |  |
| pfc  | 20%                   |      |      | 20%  |      |      | 20%                            |      |      | 20%  |      |      | 20%  |      |      | 0 |  |
| RCR  | RCR:Room Cavity Ratio |      |      |      |      |      | Wall Exitance Coeffcients(WEC) |      |      |      |      |      |      |      |      |   |  |
| 0.0  |                       |      |      |      |      |      |                                |      |      |      |      |      |      |      |      |   |  |
| 1.0  | .155                  | .088 | .028 | .147 | .084 | .027 | .133                           | .076 | .024 | .119 | .069 | .022 | .106 | .062 | .020 |   |  |
| 2.0  | .145                  | .079 | .024 | .138 | .076 | .023 | .126                           | .070 | .022 | .114 | .064 | .020 | .103 | .058 | .018 |   |  |
| 3.0  | .135                  | .072 | .021 | .129 | .069 | .021 | .118                           | .064 | .019 | .108 | .059 | .018 | .099 | .055 | .017 |   |  |
| 4.0  | .126                  | .065 | .019 | .121 | .063 | .019 | .112                           | .059 | .018 | .103 | .055 | .017 | .095 | .052 | .016 |   |  |
| 5.0  | .118                  | .060 | .017 | .113 | .058 | .017 | .105                           | .055 | .016 | .098 | .052 | .015 | .091 | .048 | .015 |   |  |
| 6.0  | .111                  | .055 | .016 | .107 | .054 | .016 | .100                           | .051 | .015 | .093 | .048 | .014 | .087 | .046 | .014 |   |  |
| 7.0  | .104                  | .052 | .015 | .101 | .050 | .014 | .095                           | .048 | .014 | .089 | .045 | .013 | .083 | .043 | .013 |   |  |
| 8.0  | .099                  | .048 | .014 | .096 | .047 | .013 | .090                           | .045 | .013 | .085 | .043 | .012 | .080 | .041 | .012 |   |  |
| 9.0  | .094                  | .045 | .013 | .091 | .044 | .012 | .086                           | .042 | .012 | .081 | .041 | .012 | .077 | .039 | .011 |   |  |
| 10.0 | .089                  | .043 | .012 | .087 | .042 | .012 | .082                           | .040 | .011 | .078 | .039 | .011 | .074 | .037 | .011 |   |  |

| pcc  | 80%                   |      |      | 70%  |      |      | 50%  |      |      | 30%  |      |      | 10%  |      |      | 0 |
|------|-----------------------|------|------|------|------|------|--|------|------|------|------|------|------|------|------|---|
| pw   | 50%                   | 30%  | 10%  | 50%  | 30%  | 10%  | 50%  | 30%  | 10%  | 50%  | 30%  | 10%  | 50%  | 30%  | 10%  | 0 |
| pfc  | 20%                   |      |      | 20%  |      |      | 20%  |      |      | 20%  |      |      | 20%  |      |      | 0 |
| RCR  | RCR:Room Cavity Ratio |      |      |      |      |      | Ceiling Cavity Exitance Coefficients(CCEC) |      |      |      |      |      |      |      |      |   |
| 0.0  | .223                  | .223 | .223 | .190 | .190 | .190 | .130                                       | .130 | .130 | .075 | .075 | .075 | .024 | .024 | .024 |   |
| 1.0  | .202                  | .190 | .179 | .173 | .163 | .154 | .118                                       | .112 | .106 | .068 | .065 | .062 | .022 | .021 | .020 |   |
| 2.0  | .185                  | .165 | .148 | .159 | .142 | .128 | .109                                       | .098 | .089 | .063 | .057 | .052 | .020 | .019 | .017 |   |
| 3.0  | .171                  | .146 | .126 | .147 | .126 | .109 | .101                                       | .088 | .077 | .058 | .051 | .045 | .019 | .017 | .015 |   |
| 4.0  | .159                  | .131 | .110 | .137 | .113 | .095 | .094                                       | .079 | .067 | .054 | .046 | .040 | .017 | .015 | .013 |   |
| 5.0  | .149                  | .119 | .097 | .128 | .103 | .084 | .088                                       | .072 | .060 | .051 | .042 | .035 | .016 | .014 | .012 |   |
| 6.0  | .140                  | .109 | .087 | .121 | .095 | .076 | .083                                       | .066 | .054 | .048 | .039 | .032 | .016 | .013 | .011 |   |
| 7.0  | .133                  | .101 | .079 | .114 | .088 | .069 | .079                                       | .062 | .049 | .046 | .036 | .029 | .015 | .012 | .010 |   |
| 8.0  | .126                  | .095 | .073 | .109 | .082 | .064 | .075                                       | .058 | .045 | .044 | .034 | .027 | .014 | .011 | .009 |   |
| 9.0  | .121                  | .089 | .068 | .104 | .077 | .059 | .072                                       | .054 | .042 | .042 | .032 | .025 | .014 | .011 | .008 |   |
| 10.0 | .115                  | .084 | .064 | .100 | .073 | .056 | .069                                       | .052 | .040 | .040 | .031 | .024 | .013 | .010 | .008 |   |

C Range: 0 - 360DEG  
C Interval: 10.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:ZR  
Test Date:2021-03-15

γ Range: 0 - 180DEG  
γ Interval: 0.5DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.354  
Humidity:65.0%  
Test Distance:7.028m [K=1.0000]  
Remarks:

## UGR(Unified Glare Rating) Table

|   |               |                  |      |      |      |               |                |                  |      |      |      |
|---|---------------|------------------|------|------|------|---------------|----------------|------------------|------|------|------|
| Test:U:225.0V I:0.0910A P:20.10W PF:0.9780 Freq:50.00Hz Lamp Flux:1596.1x1 lm |               |                  |      |      |      |               |                |                  |      |      |      |
| NAME: TL45-20G27-24-M   |               |                  |      |      |      | TYPE:         |                | WEIGHT:          |      |      |      |
| SPEC.:  |               |                  |      |      |      | DIM.:         |                | SERIAL No.:      |      |      |      |
| MFR.:   |               |                  |      |      |      | SUR.:80       |                | Shielding 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   |               | 15.2             | 15.9 | 15.5 | 16.2 | 16.4          | 14.6           | 15.3             | 14.8 | 15.5 | 15.7 |
|   | 3H            | 15.8             | 16.4 | 16.1 | 16.7 | 17.0          | 15.3           | 16.0             | 15.6 | 16.2 | 16.5 |
|   | 4H            | 16.0             | 16.6 | 16.3 | 16.9 | 17.2          | 15.6           | 16.2             | 15.9 | 16.5 | 16.8 |
|   | 6H            | 16.0             | 16.6 | 16.4 | 16.9 | 17.2          | 15.6           | 16.2             | 16.0 | 16.5 | 16.8 |
|   | 8H            | 16.0             | 16.5 | 16.3 | 16.9 | 17.2          | 15.6           | 16.2             | 16.0 | 16.5 | 16.8 |
|   | 12H           | 15.9             | 16.5 | 16.3 | 16.8 | 17.2          | 15.6           | 16.1             | 15.9 | 16.4 | 16.8 |
| 4H  | 2H            | 15.5             | 16.2 | 15.9 | 16.5 | 16.7          | 15.0           | 15.6             | 15.3 | 15.9 | 16.2 |
|   | 3H            | 16.2             | 16.8 | 16.6 | 17.1 | 17.5          | 15.9           | 16.4             | 16.2 | 16.7 | 17.1 |
|   | 4H            | 16.5             | 17.0 | 16.9 | 17.4 | 17.8          | 16.2           | 16.7             | 16.6 | 17.1 | 17.5 |
|   | 6H            | 16.5             | 17.0 | 17.0 | 17.4 | 17.8          | 16.3           | 16.7             | 16.7 | 17.1 | 17.5 |
|   | 8H            | 16.5             | 16.9 | 16.9 | 17.3 | 17.8          | 16.2           | 16.6             | 16.7 | 17.1 | 17.5 |
|   | 12H           | 16.4             | 16.8 | 16.9 | 17.3 | 17.7          | 16.2           | 16.6             | 16.7 | 17.0 | 17.5 |
| 8H  | 4H            | 16.5             | 16.9 | 17.0 | 17.4 | 17.8          | 16.2           | 16.7             | 16.7 | 17.1 | 17.5 |
|   | 6H            | 16.5             | 16.9 | 17.0 | 17.4 | 17.9          | 16.3           | 16.6             | 16.8 | 17.1 | 17.6 |
|   | 8H            | 16.5             | 16.8 | 17.0 | 17.3 | 17.8          | 16.3           | 16.6             | 16.8 | 17.1 | 17.6 |
|   | 12H           | 16.5             | 16.7 | 17.0 | 17.3 | 17.8          | 16.2           | 16.5             | 16.8 | 17.0 | 17.6 |
| 12H   | 4H            | 16.5             | 16.8 | 16.9 | 17.3 | 17.8          | 16.2           | 16.6             | 16.7 | 17.0 | 17.5 |
|   | 6H            | 16.5             | 16.8 | 17.0 | 17.3 | 17.8          | 16.3           | 16.6             | 16.8 | 17.0 | 17.6 |
|   | 8H            | 16.5             | 16.7 | 17.0 | 17.2 | 17.8          | 16.2           | 16.5             | 16.8 | 17.0 | 17.6 |
| Variations with the observer position at spacings:                            |               |                  |      |      |      |               |                |                  |      |      |      |
| S = 1.0H  | + 0.6 / - 0.7 |                  |      |      |      | + 0.6 / - 0.6 |                |                  |      |      |      |
| 1.5H  | + 0.5 / - 0.6 |                  |      |      |      | + 0.3 / - 0.2 |                |                  |      |      |      |
| 2.0H  | + 1.1 / - 0.9 |                  |      |      |      | + 0.5 / - 0.5 |                |                  |      |      |      |

CIE Pub.117, 1596 lm Total Lamp Luminous Flux Correct (8log(F/F0) = 1.6)

C Range: 0 - 360DEG  
C Interval: 10.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:ZR  
Test Date:2021-03-15

γ Range: 0 - 180DEG  
γ Interval: 0.5DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.354  
Humidity:65.0%  
Test Distance:7.028m [K=1.0000]  
Remarks:

### UTILIZATION FACTORS TABLE

|   |         |                  |
|---|---------|------------------|
| Test:U:225.0V I:0.0910A P:20.10W PF:0.9780 Freq:50.00Hz Lamp Flux:1596.1x1 lm |         |                  |
| NAME: TL45-20G27-24-M   | TYPE:   | WEIGHT:          |
| SPEC.:  | DIM.:   | SERIAL No.:      |
| MFR.:   | SUR.:80 | Shielding Angle: |

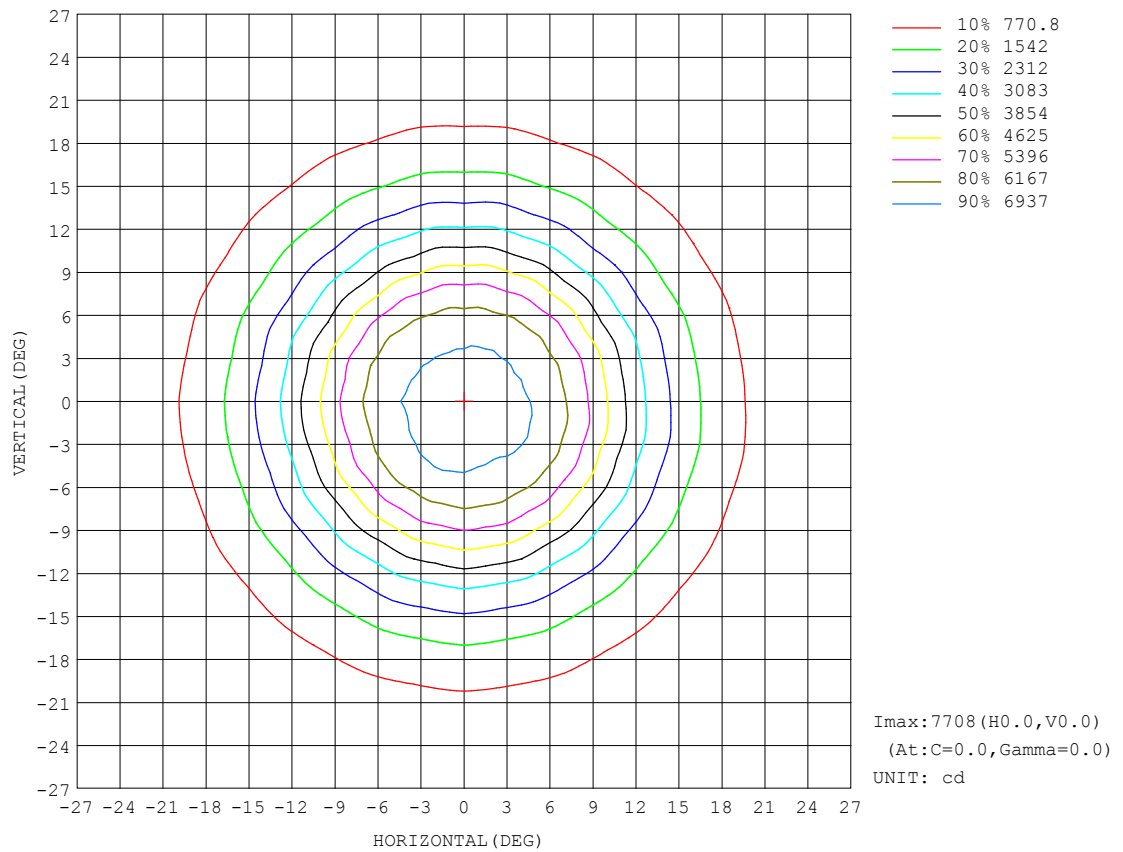
| REFLECTANCE                      |  |     |           |     |     |     |     |               |     |        |
|----------------------------------|--|-----|-----------|-----|-----|-----|-----|---------------|-----|--------|
| Ceiling                          | 0.8  | 0.8 | 0.8       | 0.7 | 0.7 | 0.7 | 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) $k(RI) \times RCR = 5$ |     |           |     |     |     |     |               |     |        |
| $k = 0.60$                       | 84   | 77  | 73        | 83  | 77  | 73  | 82  | 76            | 73  | 69     |
| 0.80                             | 91   | 85  | 81        | 90  | 85  | 81  | 89  | 84            | 80  | 76     |
| 1.00                             | 96   | 90  | 86        | 95  | 89  | 86  | 93  | 89            | 85  | 80     |
| 1.25                             | 100  | 94  | 91        | 99  | 94  | 90  | 96  | 92            | 89  | 84     |
| 1.50                             | 103  | 98  | 94        | 102 | 97  | 93  | 99  | 95            | 92  | 87     |
| 2.00                             | 106  | 102 | 98        | 104 | 100 | 97  | 101 | 98            | 95  | 89     |
| 2.50                             | 108  | 104 | 101       | 106 | 102 | 99  | 102 | 99            | 97  | 90     |
| 3.00                             | 110  | 106 | 103       | 108 | 104 | 102 | 103 | 101           | 99  | 91     |
| 4.00                             | 112  | 109 | 107       | 110 | 107 | 105 | 105 | 103           | 101 | 93     |
| 5.00                             | 113  | 111 | 109       | 111 | 109 | 107 | 106 | 105           | 103 | 94     |
| ROOM INDEX                       | UF (total)   |     |           |     |     |     |     |               |     | Direct |
| According to DIN EN 13032-2 2004 |  |     | Suspended |     |     |     |     | SHRNOM = 1.25 |     |        |

C Range: 0 - 360DEG  
 C Interval: 10.0DEG  
 Test Speed: HIGH  
 Temperature: 25.3DEG  
 Operators: ZR  
 Test Date: 2021-03-15

γ Range: 0 - 180DEG  
 γ Interval: 0.5DEG  
 Test System: EVERFINE GO-2000B\_V1 SYSTEM V2.0.354  
 Humidity: 65.0%  
 Test Distance: 7.028m [K=1.0000]  
 Remarks:

## ISOCANDELA DIAGRAM

|   |         |                  |
|---|---------|------------------|
| Test:U:225.0V I:0.0910A P:20.10W PF:0.9780 Freq:50.00Hz Lamp Flux:1596.1x1 lm |         |                  |
| NAME: TL45-20G27-24-M   | TYPE:   | WEIGHT:          |
| SPEC.:  | DIM.:   | SERIAL No.:      |
| MFR.:   | SUR.:80 | Shielding Angle: |

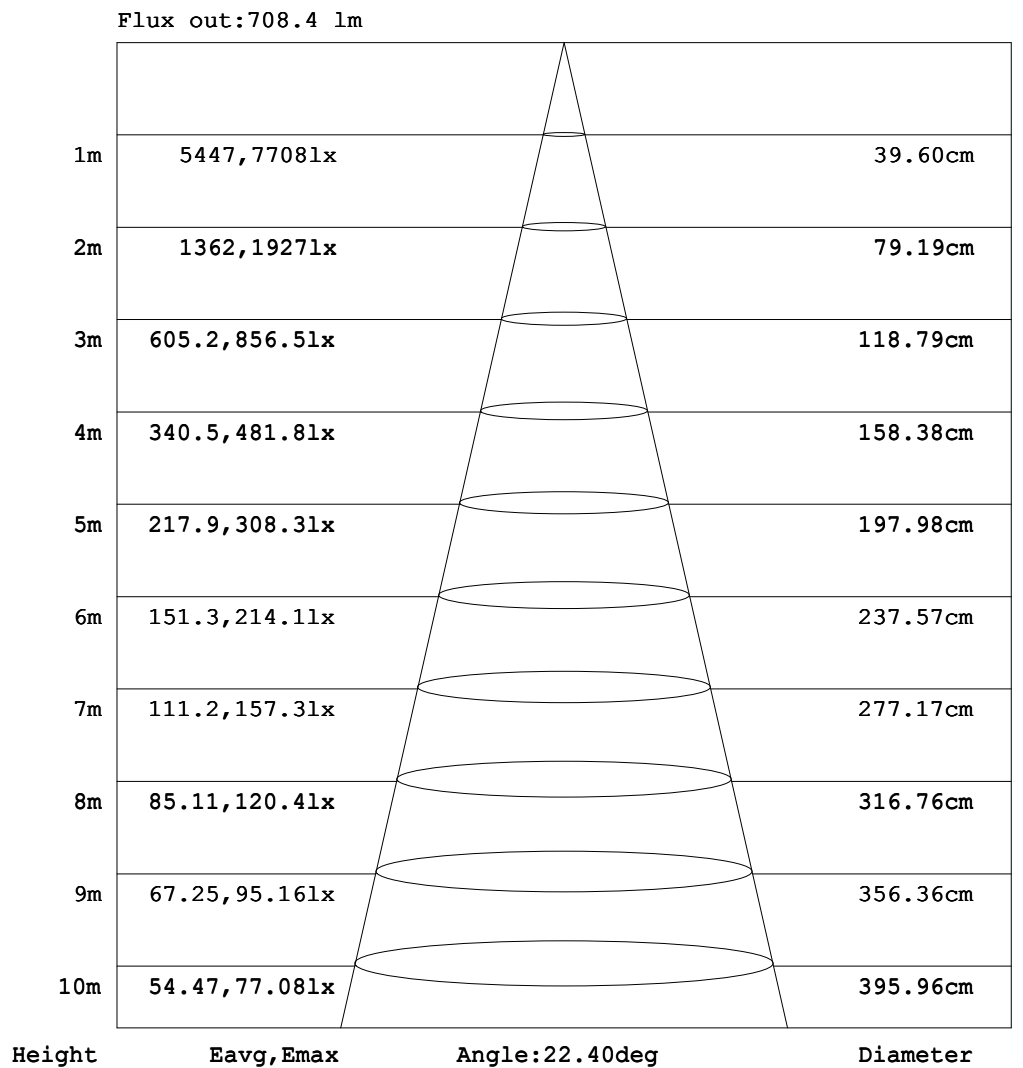


C Range: 0 - 360DEG  
C Interval: 10.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:ZR  
Test Date:2021-03-15

$\gamma$  Range: 0 - 180DEG  
 $\gamma$  Interval: 0.5DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.354  
Humidity:65.0%  
Test Distance:7.028m [K=1.0000]  
Remarks:

### AAI Figure

|   |         |                  |
|---|---------|------------------|
| Test:U:225.0V I:0.0910A P:20.10W PF:0.9780 Freq:50.00Hz Lamp Flux:1596.1x1 lm |         |                  |
| NAME: TL45-20G27-24-M   | TYPE:   | WEIGHT:          |
| SPEC.:  | DIM.:   | SERIAL No.:      |
| MFR.:   | SUR.:80 | Shielding Angle: |



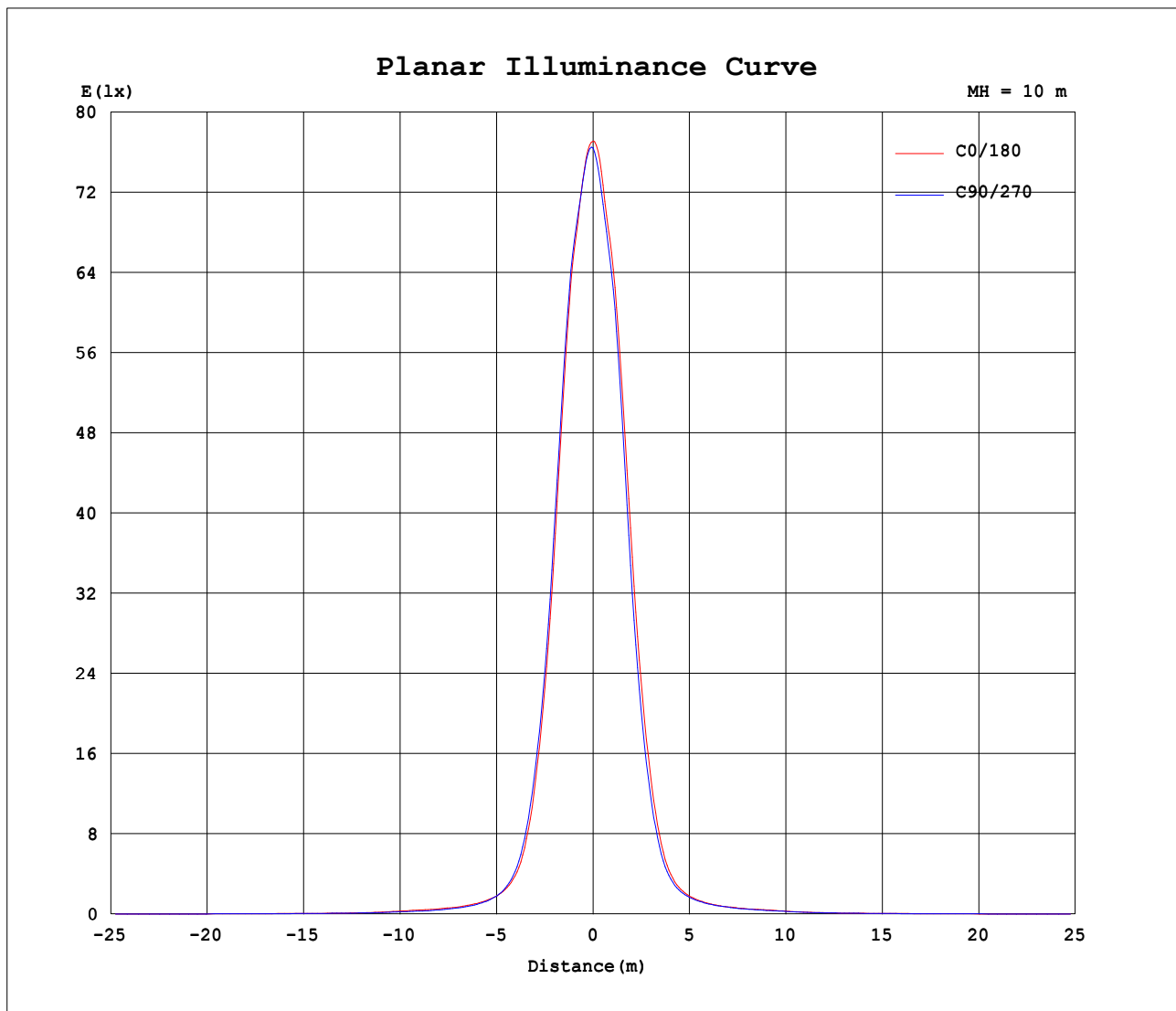
Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG  
 C Interval: 10.0DEG  
 Test Speed: HIGH  
 Temperature: 25.3DEG  
 Operators: ZR  
 Test Date: 2021-03-15

γ Range: 0 - 180DEG  
 γ Interval: 0.5DEG  
 Test System: EVERFINE GO-2000B\_V1 SYSTEM V2.0.354  
 Humidity: 65.0%  
 Test Distance: 7.028m [K=1.0000]  
 Remarks:



## Planar Illuminance Curve



C Range: 0 - 360DEG  
C Interval: 10.0DEG  
Test Speed: HIGH  
Temperature: 25.3DEG  
Operators: ZR  
Test Date: 2021-03-15

$\gamma$  Range: 0 - 180DEG  
 $\gamma$  Interval: 0.5DEG  
Test System: EVERFINE GO-2000B\_V1 SYSTEM V2.0.354  
Humidity: 65.0%  
Test Distance: 7.028m [K=1.0000]  
Remarks:

## LUMINOUS DISTRIBUTION INTENSITY DATA

|   |  |  |  |  |  |  |  |  |         |  |  |  |  |                  |  |  |  |  |
|---|--|--|--|--|--|--|--|--|---------|--|--|--|--|------------------|--|--|--|--|
| Test:U:225.0V I:0.0910A P:20.10W PF:0.9780 Freq:50.00Hz Lamp Flux:1596.1x1 lm |  |  |  |  |  |  |  |  |         |  |  |  |  |                  |  |  |  |  |
| NAME: TL45-20G27-24-M   |  |  |  |  |  |  |  |  | TYPE:   |  |  |  |  | WEIGHT:          |  |  |  |  |
| SPEC.:  |  |  |  |  |  |  |  |  | DIM.:   |  |  |  |  | SERIAL No.:      |  |  |  |  |
| MFR.:   |  |  |  |  |  |  |  |  | SUR.:80 |  |  |  |  | Shielding Angle: |  |  |  |  |

Table--1

UNIT: cd

| C (DEG)<br>γ (DEG) | 0    | 10   | 20   | 30   | 40   | 50   | 60   | 70   | 80   | 90   | 100  | 110  | 120  | 130  | 140  | 150  | 160  | 170  | 180  |
|--------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 0                  | 7708 | 7701 | 7686 | 7683 | 7678 | 7665 | 7664 | 7650 | 7650 | 7642 | 7642 | 7632 | 7637 | 7627 | 7626 | 7621 | 7622 | 7611 | 7708 |
| 5                  | 6849 | 6901 | 6907 | 6959 | 6941 | 6935 | 6866 | 6878 | 6888 | 6934 | 6923 | 6962 | 6912 | 6891 | 6823 | 6810 | 6756 | 6755 | 6819 |
| 10                 | 4633 | 4744 | 4691 | 4806 | 4746 | 4837 | 4773 | 4847 | 4781 | 4832 | 4724 | 4754 | 4633 | 4700 | 4597 | 4656 | 4551 | 4591 | 4635 |
| 15                 | 2071 | 2147 | 2101 | 2177 | 2127 | 2206 | 2165 | 2234 | 2179 | 2236 | 2171 | 2210 | 2125 | 2163 | 2094 | 2147 | 2077 | 2115 | 2137 |
| 20                 | 707  | 742  | 725  | 761  | 744  | 780  | 763  | 801  | 782  | 810  | 775  | 789  | 751  | 766  | 732  | 751  | 719  | 737  | 749  |
| 25                 | 304  | 312  | 306  | 314  | 306  | 314  | 307  | 316  | 309  | 316  | 306  | 310  | 299  | 305  | 297  | 304  | 297  | 302  | 307  |
| 30                 | 186  | 187  | 184  | 184  | 179  | 180  | 175  | 176  | 173  | 173  | 171  | 172  | 170  | 173  | 173  | 177  | 177  | 180  | 183  |
| 35                 | 131  | 130  | 128  | 126  | 122  | 120  | 116  | 115  | 113  | 114  | 113  | 115  | 116  | 119  | 121  | 125  | 127  | 129  | 132  |
| 40                 | 106  | 104  | 100  | 96.3 | 90.4 | 87.2 | 83.7 | 82.6 | 81.3 | 81.8 | 81.5 | 83.2 | 84.8 | 89.4 | 94.9 | 99.9 | 103  | 106  | 108  |
| 45                 | 85.4 | 86.1 | 82.6 | 79.9 | 73.4 | 70.8 | 68.0 | 67.1 | 66.4 | 66.5 | 65.9 | 67.4 | 68.6 | 74.1 | 77.2 | 80.5 | 80.5 | 82.4 | 84.7 |
| 50                 | 54.5 | 55.7 | 55.5 | 56.6 | 55.1 | 53.4 | 50.5 | 49.1 | 48.1 | 48.4 | 48.8 | 50.4 | 52.7 | 54.5 | 53.5 | 53.7 | 53.2 | 54.0 | 55.6 |
| 55                 | 44.2 | 44.2 | 43.8 | 43.8 | 43.4 | 43.1 | 42.0 | 41.4 | 40.7 | 41.0 | 41.0 | 41.7 | 41.6 | 42.9 | 43.3 | 43.7 | 43.9 | 44.5 | 45.8 |
| 60                 | 38.8 | 38.7 | 38.1 | 37.7 | 37.1 | 36.6 | 36.4 | 36.1 | 35.9 | 35.8 | 35.7 | 35.7 | 35.7 | 36.2 | 36.5 | 36.7 | 36.6 | 37.0 | 38.4 |
| 65                 | 21.2 | 22.3 | 21.4 | 21.9 | 21.3 | 21.8 | 21.2 | 21.5 | 21.2 | 21.4 | 21.0 | 20.9 | 20.5 | 20.4 | 20.0 | 20.1 | 19.8 | 20.0 | 20.6 |
| 70                 | 15.9 | 16.1 | 16.0 | 16.4 | 16.3 | 16.6 | 16.5 | 16.7 | 16.8 | 16.9 | 16.5 | 16.4 | 16.1 | 16.1 | 15.8 | 15.8 | 15.5 | 15.6 | 15.7 |
| 75                 | 9.52 | 9.70 | 9.67 | 9.98 | 9.94 | 10.2 | 10.1 | 10.3 | 10.2 | 10.4 | 10.1 | 9.94 | 9.72 | 9.78 | 9.55 | 9.57 | 9.32 | 9.31 | 9.18 |
| 80                 | 2.99 | 3.22 | 3.03 | 3.29 | 3.12 | 3.34 | 3.17 | 3.42 | 3.23 | 3.43 | 3.16 | 3.27 | 2.99 | 3.15 | 2.93 | 3.12 | 2.91 | 3.04 | 2.73 |
| 85                 | 1.41 | 1.43 | 1.41 | 1.42 | 1.40 | 1.41 | 1.40 | 1.41 | 1.40 | 1.41 | 1.40 | 1.40 | 1.39 | 1.41 | 1.39 | 1.41 | 1.39 | 1.42 | 0.78 |
| 90                 | 1.63 | 1.65 | 1.63 | 1.64 | 1.62 | 1.63 | 1.61 | 1.62 | 1.60 | 1.62 | 1.60 | 1.62 | 1.60 | 1.62 | 1.60 | 1.62 | 1.61 | 1.63 | 0.74 |
| 95                 | 1.88 | 1.90 | 1.88 | 1.90 | 1.87 | 1.88 | 1.86 | 1.88 | 1.86 | 1.87 | 1.87 | 1.87 | 1.86 | 1.87 | 1.86 | 1.88 | 1.86 | 1.88 | 0.78 |
| 100                | 2.24 | 2.23 | 2.21 | 2.22 | 2.24 | 2.21 | 2.24 | 2.20 | 2.19 | 2.20 | 2.18 | 2.19 | 2.19 | 2.20 | 2.24 | 2.21 | 2.20 | 2.22 | 0.98 |
| 105                | 2.71 | 2.72 | 2.70 | 2.70 | 2.69 | 2.69 | 2.69 | 2.67 | 2.69 | 2.67 | 2.66 | 2.67 | 2.69 | 2.68 | 2.69 | 2.69 | 2.69 | 2.70 | 1.37 |
| 110                | 3.49 | 3.47 | 3.47 | 3.45 | 3.45 | 3.42 | 3.43 | 3.40 | 3.41 | 3.40 | 3.41 | 3.40 | 3.42 | 3.42 | 3.44 | 3.44 | 3.46 | 3.45 | 2.03 |
| 115                | 4.74 | 4.69 | 4.71 | 4.65 | 4.68 | 4.61 | 4.64 | 4.58 | 4.62 | 4.57 | 4.62 | 4.57 | 4.63 | 4.60 | 4.66 | 4.63 | 4.69 | 4.66 | 3.19 |
| 120                | 6.63 | 6.52 | 6.59 | 6.48 | 6.53 | 6.43 | 6.48 | 6.37 | 6.44 | 6.34 | 6.42 | 6.36 | 6.45 | 6.39 | 6.49 | 6.44 | 6.55 | 6.50 | 5.03 |
| 125                | 9.11 | 8.98 | 9.05 | 8.92 | 8.98 | 8.86 | 8.92 | 8.80 | 8.88 | 8.76 | 8.86 | 8.76 | 8.88 | 8.80 | 8.92 | 8.86 | 8.99 | 8.93 | 7.38 |
| 130                | 11.9 | 11.7 | 11.8 | 11.7 | 11.7 | 11.6 | 11.7 | 11.5 | 11.6 | 11.5 | 11.6 | 11.5 | 11.6 | 11.5 | 11.7 | 11.6 | 11.7 | 11.7 | 9.90 |
| 135                | 14.4 | 14.3 | 14.4 | 14.3 | 14.3 | 14.2 | 14.2 | 14.1 | 14.2 | 14.1 | 14.2 | 14.1 | 14.2 | 14.1 | 14.2 | 14.2 | 14.3 | 14.2 | 12.2 |
| 140                | 16.5 | 16.4 | 16.4 | 16.3 | 16.3 | 16.3 | 16.3 | 16.2 | 16.2 | 16.2 | 16.2 | 16.2 | 16.2 | 16.2 | 16.2 | 16.2 | 16.3 | 16.3 | 14.1 |
| 145                | 18.3 | 18.2 | 18.3 | 18.2 | 18.2 | 18.1 | 18.1 | 18.0 | 18.1 | 18.0 | 18.1 | 18.0 | 18.1 | 18.0 | 18.1 | 18.1 | 18.1 | 18.1 | 16.1 |
| 150                | 21.3 | 21.1 | 21.2 | 21.0 | 21.0 | 20.9 | 20.9 | 20.8 | 20.9 | 20.8 | 20.9 | 20.7 | 20.9 | 20.8 | 21.0 | 20.9 | 21.1 | 21.0 | 18.9 |
| 155                | 27.6 | 27.1 | 27.3 | 26.8 | 27.0 | 26.6 | 26.8 | 26.4 | 26.6 | 26.4 | 26.6 | 26.4 | 26.7 | 26.5 | 26.9 | 26.7 | 27.2 | 27.1 | 23.9 |
| 160                | 39.1 | 38.4 | 38.6 | 37.9 | 38.1 | 37.5 | 37.8 | 37.2 | 37.6 | 37.2 | 37.6 | 37.2 | 37.8 | 37.5 | 38.1 | 37.9 | 38.6 | 38.4 | 32.3 |
| 165                | 54.6 | 53.9 | 54.2 | 53.5 | 53.7 | 53.0 | 53.3 | 52.7 | 53.1 | 52.6 | 53.1 | 52.7 | 53.4 | 53.0 | 53.7 | 53.5 | 54.2 | 54.0 | 43.3 |
| 170                | 68.6 | 68.2 | 68.3 | 67.9 | 68.0 | 67.6 | 67.7 | 67.3 | 67.5 | 67.2 | 67.4 | 67.2 | 67.5 | 67.3 | 67.6 | 67.5 | 68.0 | 67.9 | 53.0 |
| 175                | 75.1 | 75.0 | 74.9 | 74.8 | 74.7 | 74.5 | 74.4 | 74.3 | 74.2 | 74.0 | 74.0 | 73.9 | 73.8 | 73.8 | 73.7 | 73.7 | 73.7 | 73.7 | 61.7 |
| 180                | 73.2 | 73.2 | 73.1 | 73.1 | 73.0 | 72.9 | 72.8 | 72.7 | 72.6 | 72.5 | 72.4 | 72.2 | 72.1 | 72.0 | 71.8 | 71.7 | 71.6 | 71.5 | 73.2 |

C Range: 0 - 360DEG  
C Interval: 10.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:ZR  
Test Date:2021-03-15

γ Range: 0 - 180DEG  
γ Interval: 0.5DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.354  
Humidity:65.0%  
Test Distance:7.028m [K=1.0000]  
Remarks:

## LUMINOUS DISTRIBUTION INTENSITY DATA

|   |  |  |  |  |  |  |  |  |         |  |  |  |  |  |                  |  |  |
|---|--|--|--|--|--|--|--|--|---------|--|--|--|--|--|------------------|--|--|
| Test:U:225.0V I:0.0910A P:20.10W PF:0.9780 Freq:50.00Hz Lamp Flux:1596.1x1 lm |  |  |  |  |  |  |  |  |         |  |  |  |  |  |                  |  |  |
| NAME: TL45-20G27-24-M   |  |  |  |  |  |  |  |  | TYPE:   |  |  |  |  |  | WEIGHT:          |  |  |
| SPEC.:  |  |  |  |  |  |  |  |  | DIM.:   |  |  |  |  |  | SERIAL No.:      |  |  |
| MFR.:   |  |  |  |  |  |  |  |  | SUR.:80 |  |  |  |  |  | Shielding Angle: |  |  |

Table--2

UNIT: cd

| C (DEG)<br>γ (DEG) | 190  | 200  | 210  | 220  | 230  | 240  | 250  | 260  | 270  | 280  | 290  | 300  | 310  | 320  | 330  | 340  | 350  |  |  |
|--------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|--|--|
| 0                  | 7701 | 7686 | 7683 | 7678 | 7665 | 7664 | 7650 | 7650 | 7642 | 7642 | 7632 | 7637 | 7627 | 7626 | 7621 | 7622 | 7611 |  |  |
| 5                  | 6737 | 6745 | 6681 | 6639 | 6558 | 6581 | 6553 | 6636 | 6621 | 6689 | 6653 | 6710 | 6684 | 6730 | 6714 | 6773 | 6757 |  |  |
| 10                 | 4517 | 4583 | 4413 | 4453 | 4299 | 4380 | 4247 | 4367 | 4273 | 4408 | 4331 | 4468 | 4406 | 4553 | 4485 | 4641 | 4572 |  |  |
| 15                 | 2049 | 2080 | 1959 | 1979 | 1887 | 1941 | 1870 | 1923 | 1859 | 1924 | 1860 | 1931 | 1876 | 1974 | 1947 | 2059 | 2033 |  |  |
| 20                 | 700  | 714  | 665  | 682  | 646  | 668  | 640  | 668  | 639  | 664  | 632  | 663  | 639  | 677  | 659  | 704  | 690  |  |  |
| 25                 | 296  | 300  | 288  | 293  | 283  | 288  | 279  | 286  | 279  | 286  | 280  | 289  | 286  | 295  | 291  | 303  | 300  |  |  |
| 30                 | 181  | 181  | 179  | 179  | 176  | 176  | 175  | 176  | 174  | 176  | 176  | 179  | 179  | 182  | 182  | 185  | 184  |  |  |
| 35                 | 132  | 132  | 132  | 131  | 130  | 129  | 128  | 129  | 128  | 128  | 127  | 127  | 128  | 129  | 129  | 130  | 130  |  |  |
| 40                 | 108  | 108  | 106  | 105  | 103  | 104  | 103  | 103  | 102  | 102  | 101  | 102  | 101  | 103  | 103  | 105  | 105  |  |  |
| 45                 | 83.5 | 83.7 | 81.9 | 81.9 | 80.3 | 80.9 | 79.4 | 79.5 | 78.2 | 79.1 | 79.2 | 81.2 | 80.4 | 82.3 | 81.6 | 83.9 | 84.0 |  |  |
| 50                 | 53.8 | 54.8 | 54.5 | 54.3 | 55.6 | 56.4 | 54.8 | 54.6 | 54.0 | 54.5 | 54.5 | 55.0 | 54.5 | 54.5 | 53.4 | 53.5 | 53.4 |  |  |
| 55                 | 45.9 | 46.2 | 46.1 | 45.9 | 45.3 | 44.6 | 43.7 | 43.3 | 42.6 | 42.6 | 42.7 | 43.2 | 43.5 | 43.7 | 43.4 | 43.5 | 43.8 |  |  |
| 60                 | 38.5 | 39.0 | 38.6 | 38.6 | 38.2 | 38.0 | 37.6 | 37.5 | 37.2 | 37.0 | 37.5 | 38.5 | 39.1 | 39.3 | 38.5 | 38.4 | 38.4 |  |  |
| 65                 | 20.3 | 20.4 | 20.0 | 20.1 | 19.7 | 19.9 | 19.5 | 20.7 | 20.3 | 21.3 | 20.3 | 21.4 | 20.5 | 21.8 | 20.9 | 22.1 | 21.2 |  |  |
| 70                 | 15.4 | 15.4 | 15.0 | 15.0 | 14.8 | 14.7 | 14.6 | 14.8 | 14.6 | 14.8 | 14.8 | 15.0 | 15.0 | 15.2 | 15.2 | 15.6 | 15.6 |  |  |
| 75                 | 8.90 | 8.86 | 8.56 | 8.58 | 8.33 | 8.40 | 8.31 | 8.49 | 8.39 | 8.59 | 8.51 | 8.69 | 8.58 | 8.79 | 8.83 | 9.18 | 9.22 |  |  |
| 80                 | 2.40 | 2.48 | 2.17 | 2.30 | 2.05 | 2.24 | 2.04 | 2.31 | 2.13 | 2.34 | 2.15 | 2.40 | 2.28 | 2.49 | 2.37 | 2.66 | 2.61 |  |  |
| 85                 | 0.79 | 0.74 | 0.79 | 0.73 | 0.76 | 0.71 | 0.76 | 0.71 | 0.75 | 0.70 | 0.76 | 0.71 | 0.77 | 0.72 | 0.77 | 0.72 | 0.78 |  |  |
| 90                 | 0.74 | 0.72 | 0.73 | 0.71 | 0.72 | 0.70 | 0.70 | 0.69 | 0.69 | 0.68 | 0.69 | 0.68 | 0.70 | 0.70 | 0.72 | 0.71 | 0.72 |  |  |
| 95                 | 0.78 | 0.77 | 0.76 | 0.76 | 0.72 | 0.74 | 0.70 | 0.73 | 0.70 | 0.73 | 0.70 | 0.73 | 0.71 | 0.73 | 0.72 | 0.74 | 0.75 |  |  |
| 100                | 0.99 | 0.97 | 0.97 | 0.96 | 0.93 | 0.94 | 0.92 | 0.92 | 0.91 | 0.93 | 0.92 | 0.93 | 0.92 | 0.93 | 0.92 | 0.94 | 0.92 |  |  |
| 105                | 1.36 | 1.36 | 1.35 | 1.35 | 1.33 | 1.33 | 1.33 | 1.32 | 1.31 | 1.32 | 1.31 | 1.31 | 1.34 | 1.31 | 1.31 | 1.32 | 1.32 |  |  |
| 110                | 2.04 | 2.03 | 2.04 | 2.02 | 2.03 | 2.01 | 2.03 | 2.00 | 2.01 | 1.99 | 2.00 | 1.99 | 2.00 | 1.98 | 1.99 | 1.97 | 1.99 |  |  |
| 115                | 3.24 | 3.20 | 3.25 | 3.20 | 3.24 | 3.19 | 3.23 | 3.17 | 3.22 | 3.16 | 3.21 | 3.16 | 3.20 | 3.14 | 3.18 | 3.12 | 3.16 |  |  |
| 120                | 5.12 | 5.05 | 5.14 | 5.08 | 5.13 | 5.06 | 5.12 | 5.04 | 5.10 | 5.03 | 5.09 | 5.01 | 5.09 | 5.00 | 5.05 | 4.96 | 5.01 |  |  |
| 125                | 7.47 | 7.40 | 7.49 | 7.40 | 7.48 | 7.38 | 7.47 | 7.37 | 7.45 | 7.37 | 7.45 | 7.36 | 7.45 | 7.35 | 7.41 | 7.30 | 7.35 |  |  |
| 130                | 9.98 | 9.91 | 9.97 | 9.89 | 9.95 | 9.86 | 9.92 | 9.85 | 9.91 | 9.84 | 9.91 | 9.84 | 9.92 | 9.84 | 9.91 | 9.82 | 9.86 |  |  |
| 135                | 12.2 | 12.2 | 12.2 | 12.1 | 12.2 | 12.1 | 12.1 | 12.1 | 12.1 | 12.1 | 12.1 | 12.1 | 12.1 | 12.1 | 12.2 | 12.1 | 12.2 |  |  |
| 140                | 14.1 | 14.1 | 14.1 | 14.0 | 14.0 | 14.0 | 14.0 | 13.9 | 14.0 | 13.9 | 14.0 | 13.9 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 |  |  |
| 145                | 16.1 | 16.0 | 16.1 | 16.0 | 16.0 | 16.0 | 16.0 | 15.9 | 16.0 | 15.9 | 16.0 | 15.9 | 16.0 | 15.9 | 16.0 | 15.9 | 16.0 |  |  |
| 150                | 19.0 | 18.9 | 19.0 | 18.9 | 19.0 | 18.9 | 19.0 | 18.9 | 19.0 | 18.9 | 19.0 | 18.8 | 19.0 | 18.8 | 18.9 | 18.8 | 18.8 |  |  |
| 155                | 24.2 | 24.0 | 24.3 | 24.1 | 24.3 | 24.1 | 24.4 | 24.1 | 24.4 | 24.1 | 24.3 | 24.0 | 24.2 | 23.9 | 24.1 | 23.8 | 23.9 |  |  |
| 160                | 32.8 | 32.5 | 32.9 | 32.7 | 33.0 | 32.7 | 33.1 | 32.7 | 33.0 | 32.6 | 32.9 | 32.5 | 32.8 | 32.3 | 32.6 | 32.1 | 32.3 |  |  |
| 165                | 43.7 | 43.5 | 43.9 | 43.6 | 43.9 | 43.6 | 43.9 | 43.6 | 43.8 | 43.4 | 43.6 | 43.3 | 43.5 | 43.0 | 43.2 | 42.7 | 42.8 |  |  |
| 170                | 53.2 | 53.1 | 53.2 | 53.1 | 53.2 | 53.0 | 53.1 | 52.9 | 53.0 | 52.8 | 52.8 | 52.7 | 52.7 | 52.4 | 52.4 | 52.0 | 51.9 |  |  |
| 175                | 61.8 | 61.7 | 61.8 | 61.7 | 61.7 | 61.6 | 61.6 | 61.4 | 61.4 | 61.2 | 61.2 | 60.9 | 60.9 | 60.7 | 60.7 | 60.4 | 60.4 |  |  |
| 180                | 73.1 | 73.1 | 73.0 | 73.0 | 72.9 | 72.8 | 72.7 | 72.6 | 72.5 | 72.4 | 72.2 | 72.1 | 71.9 | 71.8 | 71.7 | 71.6 | 71.5 |  |  |

C Range: 0 - 360DEG  
C Interval: 10.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:ZR  
Test Date:2021-03-15

γ Range: 0 - 180DEG  
γ Interval: 0.5DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.354  
Humidity:65.0%  
Test Distance:7.028m [K=1.0000]  
Remarks: