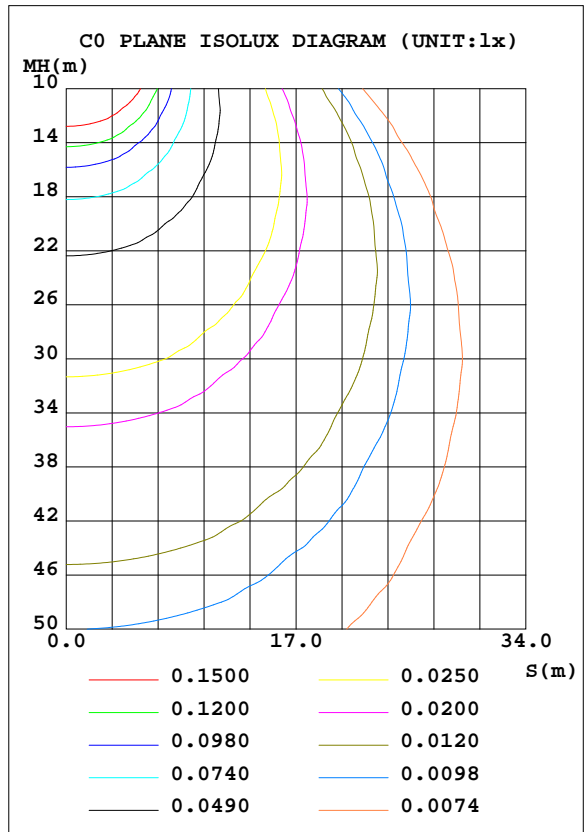
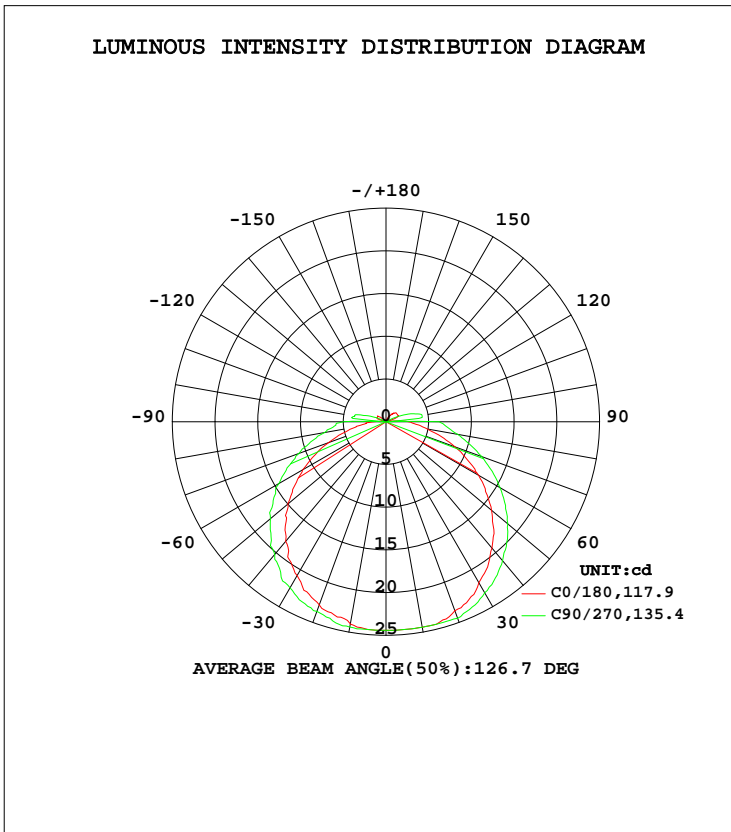


LUMINAIRE PHOTOMETRIC TEST REPORT

|   |          |                     |
|---|----------|---------------------|
| Test:U:0V I:0A P:0W PF:0.0000 Freq:0Hz Lamp Flux:94.6114x1 lm |          |                     |
| NAME: Emergency Exit Luminaire                                | TYPE:LED | WEIGHT:N/A          |
| SPEC.:N/A   | DIM.:    | SERIAL No.:N/A      |
| MFR.: CETRAM LIMITED  | SUR.:    | Shielding Angle:N/A |

| DATA OF LAMP     |          | PHOTOMETRIC DATA      |        |                    |          |
|------------------|----------|-----------------------|--------|--------------------|----------|
| MODEL            | CTRE1612 | I <sub>max</sub> (cd) | 24.56  | S/MH(C0/180)       | 1.27     |
| NOMINAL POWER(W) |          | LOR(%)                | 100.0  | S/MH(C90/270)      | 1.37     |
| RATED VOLTAGE(V) |          | TOTAL FLUX(lm)        | 94.611 | η UP, DN(C0-180)   | 3.1,48.7 |
| NOMINAL FLUX(lm) | 94.6114  | CIE CLASS             | DIRECT | η UP, DN(C180-360) | 2.3,45.9 |
| LAMPS INSIDE     | 1        | η up(%)               | 5.4    | CIBSE SHR NOM      | 1.50     |
| TEST VOLTAGE(V)  |          | η down(%)             | 94.6   | CIBSE SHR MAX      | 1.55     |



C Range: 0 - 360DEG  
 C Interval: 22.5DEG  
 Test Speed: HIGH  
 Temperature:24.5DEG  
 Operators:William  
 Test Date:2018-09-19

γ Range: 0 - 180DEG  
 γ Interval: 1.0DEG  
 Test System:EVERFINE GO-R5000\_V2 SYSTEM V2.0.366  
 Humidity:65.7%  
 Test Distance:26.000m [K=1.3825]  
 Remarks:

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

| $\gamma$ | C0                    | C45    | C90    | C135   | C180   | C225   | C270  | C315   | $\gamma$ | $\Phi$ zone | $\Phi$ total | %lum,lamp |
|----------|-----------------------|--------|--------|--------|--------|--------|-------|--------|----------|-------------|--------------|-----------|
| 10       | 24.42                 | 24.42  | 24.42  | 24.35  | 24.04  | 24.20  | 24.41 | 24.06  | 0- 10    | 2.322       | 2.322        | 2.45,2.45 |
| 20       | 23.55                 | 24.20  | 24.49  | 24.28  | 22.82  | 23.40  | 23.62 | 23.62  | 10- 20   | 6.810       | 9.132        | 9.65,9.65 |
| 30       | 21.75                 | 23.05  | 23.11  | 22.89  | 20.80  | 22.31  | 22.45 | 22.53  | 20- 30   | 10.70       | 19.83        | 21,21     |
| 40       | 19.29                 | 20.95  | 21.22  | 20.85  | 18.27  | 20.01  | 20.27 | 20.26  | 30- 40   | 13.38       | 33.22        | 35.1,35.1 |
| 50       | 16.11                 | 18.29  | 18.61  | 18.09  | 15.01  | 17.39  | 17.65 | 17.64  | 40- 50   | 14.55       | 47.77        | 50.5,50.5 |
| 60       | 12.51                 | 15.10  | 15.41  | 14.73  | 11.26  | 13.87  | 14.45 | 14.28  | 50- 60   | 14.11       | 61.88        | 65.4,65.4 |
| 70       | 8.599                 | 11.57  | 11.92  | 11.23  | 7.147  | 10.47  | 10.83 | 10.79  | 60- 70   | 12.14       | 74.02        | 78.2,78.2 |
| 80       | 4.921                 | 8.170  | 8.503  | 7.802  | 3.540  | 6.935  | 7.336 | 7.287  | 70- 80   | 9.146       | 83.16        | 87.9,87.9 |
| 90       | 2.678                 | 5.925  | 6.253  | 4.983  | 1.442  | 4.681  | 5.066 | 4.934  | 80- 90   | 6.299       | 89.46        | 94.6,94.6 |
| 100      | 0                     | 1.156  | 4.287  | 1.602  | 0      | 1.444  | 3.708 | 1.677  | 90-100   | 1.987       | 91.45        | 96.7,96.7 |
| 110      | 1.011                 | 1.087  | 2.476  | 0.8797 | 1.085  | 0.3565 | 1.959 | 0.4339 | 100-110  | 1.563       | 93.01        | 98.3,98.3 |
| 120      | 1.589                 | 0.5779 | 0.1464 | 0.2916 | 1.156  | 0.2167 | 0     | 0      | 110-120  | 0.7760      | 93.79        | 99.1,99.1 |
| 130      | 1.589                 | 0.5779 | 0      | 0.2916 | 0.6501 | 0.0722 | 0     | 0      | 120-130  | 0.4005      | 94.19        | 99.6,99.6 |
| 140      | 1.229                 | 0.5071 | 0      | 0.2916 | 0.2875 | 0      | 0     | 0      | 130-140  | 0.2544      | 94.44        | 99.8,99.8 |
| 150      | 0.7931                | 0.2890 | 0      | 0.1458 | 0.0722 | 0      | 0     | 0      | 140-150  | 0.1233      | 94.57        | 100,100   |
| 160      | 0.2201                | 0.0002 | 0      | 0      | 0      | 0      | 0     | 0      | 150-160  | 0.0424      | 94.61        | 100,100   |
| 170      | 0                     | 0      | 0      | 0      | 0      | 0      | 0     | 0      | 160-170  | 0.0026      | 94.61        | 100,100   |
| 180      | 0                     | 0      | 0      | 0      | 0      | 0      | 0     | 0      | 170-180  | 0           | 94.61        | 100,100   |
| DEG      | LUMINOUS INTENSITY:cd |        |        |        |        |        |       |        |          | UNIT:lm     |              |           |

Conical surface Flux(90deg): 40.451 lm

%lum = 42.8%  
%lamp = 42.8%

Conical surface Flux(120deg): 61.881 lm

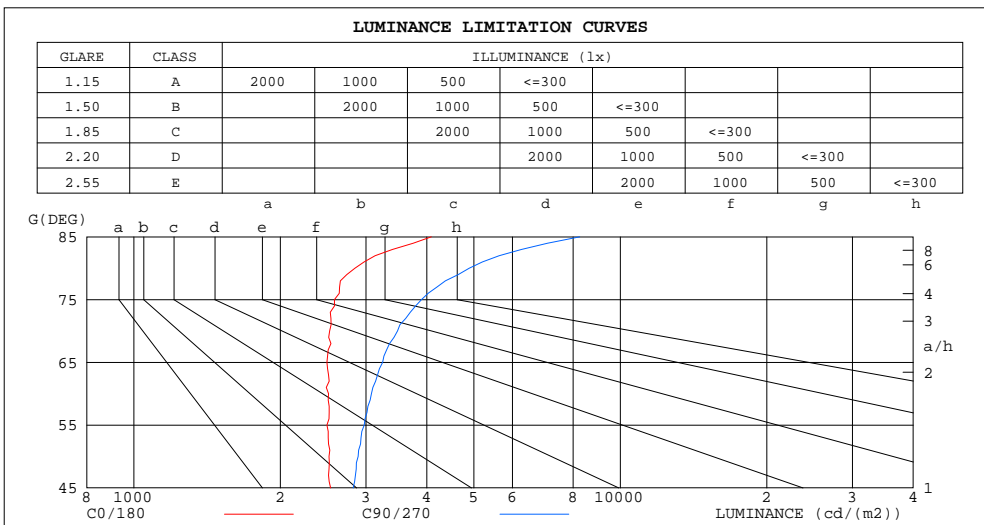
%lum = 65.4%  
%lamp = 65.4%

C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: HIGH  
Temperature:24.5DEG  
Operators:William  
Test Date:2018-09-19

$\gamma$  Range: 0 - 180DEG  
 $\gamma$  Interval: 1.0DEG  
Test System:EVERFINE GO-R5000\_V2 SYSTEM V2.0.366  
Humidity:65.7%  
Test Distance:26.000m [K=1.3825]  
Remarks:

LUMINANCE LIMITATION CURVES

|   |          |                     |
|---|----------|---------------------|
| Test:U:0V I:0A P:0W PF:0.0000 Freq:0Hz Lamp Flux:94.6114x1 lm |          |                     |
| NAME: Emergency Exit Luminaire                                | TYPE:LED | WEIGHT:N/A          |
| SPEC.:N/A   | DIM.:    | SERIAL No.:N/A      |
| MFR.: CETRAM LIMITED  | SUR.:    | Shielding Angle:N/A |



| LUMINANCE cd/(m2) |        |         |
|-------------------|--------|---------|
| G(DEG)            | C0/180 | C90/270 |
| 85                | 4086   | 8249    |
| 80                | 2848   | 4892    |
| 75                | 2584   | 3902    |
| 70                | 2526   | 3482    |
| 65                | 2493   | 3247    |
| 60                | 2513   | 3078    |
| 55                | 2494   | 2975    |
| 50                | 2519   | 2892    |
| 45                | 2537   | 2824    |

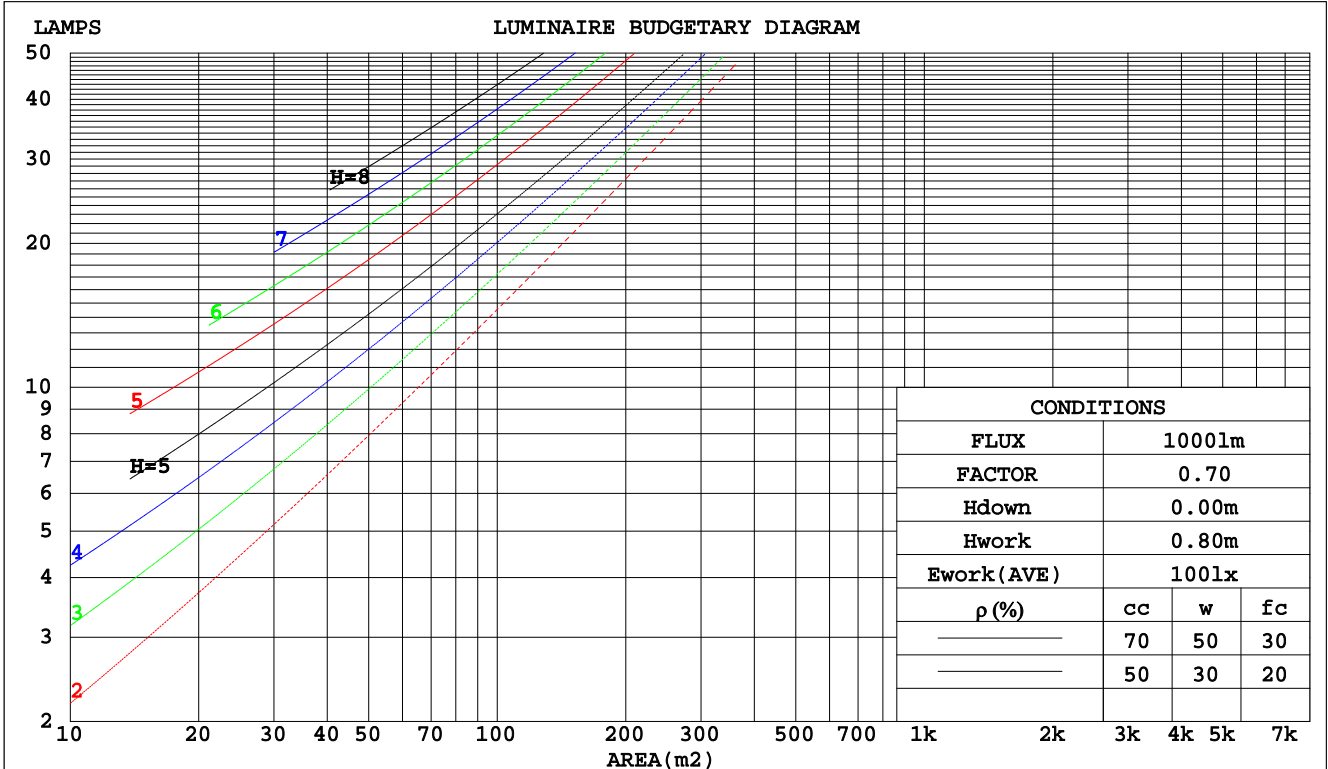
C Range: 0 - 360DEG  
 C Interval: 22.5DEG  
 Test Speed: HIGH  
 Temperature: 24.5DEG  
 Operators: William  
 Test Date: 2018-09-19

γ Range: 0 - 180DEG  
 γ Interval: 1.0DEG  
 Test System: EVERFINE GO-R5000\_V2 SYSTEM V2.0.366  
 Humidity: 65.7%  
 Test Distance: 26.000m [K=1.3825]  
 Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

|   |          |                     |
|---|----------|---------------------|
| Test:U:0V I:0A P:0W PF:0.0000 Freq:0Hz Lamp Flux:94.6114x1 lm |          |                     |
| NAME: Emergency Exit Luminaire                                | TYPE:LED | WEIGHT:N/A          |
| SPEC.:N/A   | DIM.:    | SERIAL No.:N/A      |
| MFR.: CETRAM LIMITED  | SUR.:    | Shielding Angle:N/A |

| pcc  | 80%                   |      |      | 70%  |      |      | 50%                             |      |      | 30%  |      |      | 10% |     |     | 0   |
|------|-----------------------|------|------|------|------|------|---------------------------------|------|------|------|------|------|-----|-----|-----|-----|
|      | 50%                   | 30%  | 10%  | 50%  | 30%  | 10%  | 50%                             | 30%  | 10%  | 50%  | 30%  | 10%  | 50% | 30% | 10% | 0   |
| pw   |                       |      |      |      |      |      |                                 |      |      |      |      |      |     |     |     |     |
| pfc  | 20%                   |      |      | 20%  |      |      | 20%                             |      |      | 20%  |      |      | 20% |     |     | 0   |
| RCR  | RCR:Room Cavity Ratio |      |      |      |      |      | Coefficients of Utilization(CU) |      |      |      |      |      |     |     |     |     |
| 0.0  | 1.18                  | 1.18 | 1.18 | 1.14 | 1.14 | 1.14 | 1.08                            | 1.08 | 1.08 | 1.02 | 1.02 | 1.02 | .97 | .97 | .97 | .95 |
| 1.0  | .99                   | .94  | .89  | .96  | .91  | .87  | .91                             | .87  | .83  | .86  | .83  | .80  | .81 | .79 | .76 | .74 |
| 2.0  | .85                   | .77  | .71  | .82  | .75  | .69  | .78                             | .72  | .67  | .74  | .69  | .64  | .70 | .66 | .62 | .59 |
| 3.0  | .74                   | .65  | .57  | .72  | .63  | .57  | .68                             | .61  | .55  | .64  | .58  | .53  | .61 | .56 | .52 | .49 |
| 4.0  | .65                   | .55  | .48  | .63  | .54  | .47  | .60                             | .52  | .46  | .57  | .50  | .45  | .54 | .48 | .44 | .41 |
| 5.0  | .58                   | .48  | .41  | .56  | .47  | .40  | .53                             | .45  | .39  | .51  | .44  | .38  | .48 | .42 | .37 | .35 |
| 6.0  | .52                   | .42  | .35  | .50  | .41  | .35  | .48                             | .40  | .34  | .46  | .39  | .33  | .44 | .37 | .33 | .30 |
| 7.0  | .47                   | .37  | .31  | .46  | .37  | .31  | .43                             | .36  | .30  | .41  | .35  | .29  | .40 | .33 | .29 | .27 |
| 8.0  | .42                   | .33  | .27  | .41  | .33  | .27  | .40                             | .32  | .27  | .38  | .31  | .26  | .36 | .30 | .26 | .24 |
| 9.0  | .39                   | .30  | .24  | .38  | .30  | .24  | .36                             | .29  | .24  | .35  | .28  | .23  | .33 | .27 | .23 | .21 |
| 10.0 | .36                   | .28  | .22  | .35  | .27  | .22  | .34                             | .26  | .22  | .32  | .26  | .21  | .31 | .25 | .21 | .19 |



C Range: 0 - 360DEG  
 C Interval: 22.5DEG  
 Test Speed: HIGH  
 Temperature:24.5DEG  
 Operators:William  
 Test Date:2018-09-19

γ Range: 0 - 180DEG  
 γ Interval: 1.0DEG  
 Test System:EVERFINE GO-R5000\_V2 SYSTEM V2.0.366  
 Humidity:65.7%  
 Test Distance:26.000m [K=1.3825]  
 Remarks:

WEC AND CCEC

|   |          |                     |
|---|----------|---------------------|
| Test:U:0V I:0A P:0W PF:0.0000 Freq:0Hz Lamp Flux:94.6114x1 lm |          |                     |
| NAME: Emergency Exit Luminaire                                | TYPE:LED | WEIGHT:N/A          |
| SPEC.:N/A   | DIM.:    | SERIAL No.:N/A      |
| MFR.: CETRAM LIMITED  | SUR.:    | Shielding Angle:N/A |

| ρcc  | 80%                   |      |      | 70%  |      |      | 50%                             |      |      | 30%  |      |      | 10%  |      |      | 0 |
|------|-----------------------|------|------|------|------|------|---------------------------------|------|------|------|------|------|------|------|------|---|
| ρw   | 50%                   | 30%  | 10%  | 50%  | 30%  | 10%  | 50%                             | 30%  | 10%  | 50%  | 30%  | 10%  | 50%  | 30%  | 10%  | 0 |
| ρfc  | 20%                   |      |      | 20%  |      |      | 20%                             |      |      | 20%  |      |      | 20%  |      |      | 0 |
| RCR  | RCR:Room Cavity Ratio |      |      |      |      |      | Wall Exitance Coefficients(WEC) |      |      |      |      |      |      |      |      |   |
| 0.0  |                       |      |      |      |      |      |                                 |      |      |      |      |      |      |      |      |   |
| 1.0  | .378                  | .215 | .068 | .369 | .210 | .067 | .352                            | .202 | .064 | .337 | .194 | .062 | .323 | .187 | .060 |   |
| 2.0  | .332                  | .182 | .056 | .324 | .179 | .055 | .309                            | .172 | .053 | .296 | .166 | .052 | .283 | .160 | .050 |   |
| 3.0  | .297                  | .158 | .047 | .290 | .155 | .047 | .277                            | .150 | .046 | .265 | .145 | .044 | .253 | .140 | .043 |   |
| 4.0  | .269                  | .140 | .041 | .263 | .137 | .041 | .251                            | .133 | .040 | .240 | .129 | .039 | .229 | .125 | .038 |   |
| 5.0  | .245                  | .125 | .036 | .239 | .123 | .036 | .229                            | .119 | .035 | .219 | .115 | .034 | .209 | .112 | .034 |   |
| 6.0  | .225                  | .113 | .032 | .220 | .111 | .032 | .210                            | .108 | .031 | .201 | .105 | .031 | .193 | .102 | .030 |   |
| 7.0  | .208                  | .103 | .029 | .203 | .101 | .029 | .195                            | .098 | .028 | .186 | .096 | .028 | .179 | .093 | .027 |   |
| 8.0  | .193                  | .094 | .026 | .189 | .093 | .026 | .181                            | .090 | .026 | .174 | .088 | .025 | .167 | .086 | .025 |   |
| 9.0  | .180                  | .087 | .024 | .176 | .086 | .024 | .169                            | .084 | .024 | .162 | .081 | .023 | .156 | .079 | .023 |   |
| 10.0 | .168                  | .081 | .022 | .165 | .080 | .022 | .159                            | .078 | .022 | .152 | .076 | .022 | .147 | .074 | .021 |   |

| ρcc  | 80%                   |      |      | 70%  |      |      | 50%  |      |      | 30%  |      |      | 10%  |      |      | 0 |
|------|-----------------------|------|------|------|------|------|--|------|------|------|------|------|------|------|------|---|
| ρw   | 50%                   | 30%  | 10%  | 50%  | 30%  | 10%  | 50%  | 30%  | 10%  | 50%  | 30%  | 10%  | 50%  | 30%  | 10%  | 0 |
| ρfc  | 20%                   |      |      | 20%  |      |      | 20%  |      |      | 20%  |      |      | 20%  |      |      | 0 |
| RCR  | RCR:Room Cavity Ratio |      |      |      |      |      | Ceiling Cavity Exitance Coefficients(CCEC) |      |      |      |      |      |      |      |      |   |
| 0.0  | .232                  | .232 | .232 | .198 | .198 | .198 | .135                                       | .135 | .135 | .078 | .078 | .078 | .025 | .025 | .025 |   |
| 1.0  | .227                  | .197 | .171 | .194 | .169 | .147 | .133                                       | .117 | .102 | .076 | .067 | .059 | .024 | .022 | .019 |   |
| 2.0  | .220                  | .174 | .135 | .188 | .150 | .117 | .129                                       | .104 | .082 | .074 | .060 | .048 | .024 | .019 | .016 |   |
| 3.0  | .212                  | .157 | .113 | .182 | .135 | .098 | .125                                       | .094 | .069 | .072 | .055 | .040 | .023 | .018 | .013 |   |
| 4.0  | .204                  | .144 | .098 | .175 | .124 | .085 | .121                                       | .087 | .060 | .070 | .051 | .035 | .022 | .017 | .012 |   |
| 5.0  | .196                  | .134 | .088 | .169 | .116 | .076 | .116                                       | .081 | .054 | .067 | .047 | .032 | .022 | .015 | .011 |   |
| 6.0  | .189                  | .126 | .080 | .162 | .109 | .070 | .112                                       | .076 | .049 | .065 | .045 | .029 | .021 | .015 | .010 |   |
| 7.0  | .182                  | .119 | .075 | .156 | .103 | .065 | .108                                       | .072 | .046 | .063 | .043 | .028 | .020 | .014 | .009 |   |
| 8.0  | .175                  | .113 | .071 | .151 | .098 | .062 | .104                                       | .069 | .044 | .061 | .041 | .026 | .020 | .013 | .009 |   |
| 9.0  | .169                  | .108 | .068 | .145 | .094 | .059 | .101                                       | .066 | .042 | .059 | .039 | .025 | .019 | .013 | .008 |   |
| 10.0 | .163                  | .104 | .065 | .140 | .090 | .057 | .097                                       | .064 | .040 | .057 | .038 | .024 | .018 | .012 | .008 |   |

C Range: 0 - 360DEG  
 C Interval: 22.5DEG  
 Test Speed: HIGH  
 Temperature:24.5DEG  
 Operators:William  
 Test Date:2018-09-19

γ Range: 0 - 180DEG  
 γ Interval: 1.0DEG  
 Test System:EVERFINE GO-R5000\_V2 SYSTEM V2.0.366  
 Humidity:65.7%  
 Test Distance:26.000m [K=1.3825]  
 Remarks:

UGR(Unified Glare Rating) Table

|   |                  |      |      |      |          |                |      |                     |      |      |
|---|------------------|------|------|------|----------|----------------|------|---------------------|------|------|
| Test:U:0V I:0A P:0W PF:0.0000 Freq:0Hz Lamp Flux:94.6114x1 lm |                  |      |      |      |          |                |      |                     |      |      |
| NAME: Emergency Exit Luminaire                                |                  |      |      |      | TYPE:LED |                |      | WEIGHT:N/A          |      |      |
| SPEC.:N/A   |                  |      |      |      | DIM.:    |                |      | SERIAL No.:N/A      |      |      |
| MFR.: CETRAM LIMITED  |                  |      |      |      | SUR.:    |                |      | Shielding Angle:N/A |      |      |
| 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   | 15.9             | 17.4 | 16.2 | 17.7 | 18.1     | 16.7           | 18.2 | 17.0                | 18.5 | 18.9 |
| 3H  | 17.7             | 19.1 | 18.1 | 19.5 | 19.8     | 18.9           | 20.3 | 19.2                | 20.6 | 21.0 |
| 4H  | 18.5             | 19.9 | 18.9 | 20.2 | 20.6     | 20.0           | 21.4 | 20.4                | 21.7 | 22.1 |
| 6H  | 19.3             | 20.6 | 19.7 | 20.9 | 21.3     | 21.1           | 22.4 | 21.6                | 22.8 | 23.2 |
| 8H  | 19.6             | 20.9 | 20.1 | 21.3 | 21.7     | 21.8           | 23.0 | 22.2                | 23.4 | 23.8 |
| 12H   | 20.0             | 21.2 | 20.5 | 21.6 | 22.1     | 22.5           | 23.7 | 22.9                | 24.1 | 24.5 |
| 4H 2H   | 16.8             | 18.2 | 17.2 | 18.5 | 18.9     | 17.4           | 18.8 | 17.8                | 19.1 | 19.5 |
| 3H  | 18.9             | 20.1 | 19.3 | 20.5 | 20.9     | 19.8           | 21.0 | 20.3                | 21.4 | 21.9 |
| 4H  | 19.9             | 21.0 | 20.3 | 21.4 | 21.9     | 21.1           | 22.2 | 21.6                | 22.7 | 23.1 |
| 6H  | 20.8             | 21.8 | 21.3 | 22.3 | 22.8     | 22.5           | 23.5 | 23.0                | 23.9 | 24.4 |
| 8H  | 21.3             | 22.2 | 21.8 | 22.7 | 23.2     | 23.2           | 24.2 | 23.7                | 24.6 | 25.1 |
| 12H   | 21.8             | 22.6 | 22.3 | 23.1 | 23.7     | 24.1           | 25.0 | 24.6                | 25.4 | 26.0 |
| 8H 4H   | 20.6             | 21.5 | 21.1 | 22.0 | 22.5     | 21.6           | 22.5 | 22.1                | 23.0 | 23.5 |
| 6H  | 21.8             | 22.6 | 22.3 | 23.1 | 23.7     | 23.2           | 24.0 | 23.8                | 24.5 | 25.1 |
| 8H  | 22.5             | 23.2 | 23.0 | 23.7 | 24.3     | 24.2           | 24.9 | 24.7                | 25.4 | 26.0 |
| 12H   | 23.2             | 23.8 | 23.8 | 24.4 | 24.9     | 25.3           | 25.9 | 25.9                | 26.5 | 27.1 |
| 12H 4H  | 20.7             | 21.6 | 21.2 | 22.1 | 22.6     | 21.6           | 22.5 | 22.2                | 23.0 | 23.5 |
| 6H  | 22.1             | 22.8 | 22.7 | 23.4 | 23.9     | 23.4           | 24.1 | 24.0                | 24.7 | 25.2 |
| 8H  | 22.9             | 23.6 | 23.5 | 24.1 | 24.7     | 24.5           | 25.1 | 25.0                | 25.7 | 26.2 |
| Variations with the observer position at spacings:            |                  |      |      |      |          |                |      |                     |      |      |
| S = 1.0H  | + 0.1 / - 0.2    |      |      |      |          | + 0.1 / - 0.1  |      |                     |      |      |
| 1.5H  | + 0.2 / - 0.3    |      |      |      |          | + 0.2 / - 0.3  |      |                     |      |      |
| 2.0H  | + 0.2 / - 0.4    |      |      |      |          | + 0.2 / - 0.4  |      |                     |      |      |

CIE Pub.117, 94.61 lm Total Lamp Luminous Flux Corrected (8log(F/F0) = -8.2)

C Range: 0 - 360DEG  
 C Interval: 22.5DEG  
 Test Speed: HIGH  
 Temperature:24.5DEG  
 Operators:William  
 Test Date:2018-09-19

γ Range: 0 - 180DEG  
 γ Interval: 1.0DEG  
 Test System:EVERFINE GO-R5000\_V2 SYSTEM V2.0.366  
 Humidity:65.7%  
 Test Distance:26.000m [K=1.3825]  
 Remarks:

UTILIZATION FACTORS TABLE

|   |          |                     |
|---|----------|---------------------|
| Test:U:0V I:0A P:0W PF:0.0000 Freq:0Hz Lamp Flux:94.6114x1 lm |          |                     |
| NAME: Emergency Exit Luminaire                                | TYPE:LED | WEIGHT:N/A          |
| SPEC.:N/A   | DIM.:    | SERIAL No.:N/A      |
| MFR.: CETRAM LIMITED  | SUR.:    | Shielding Angle:N/A |

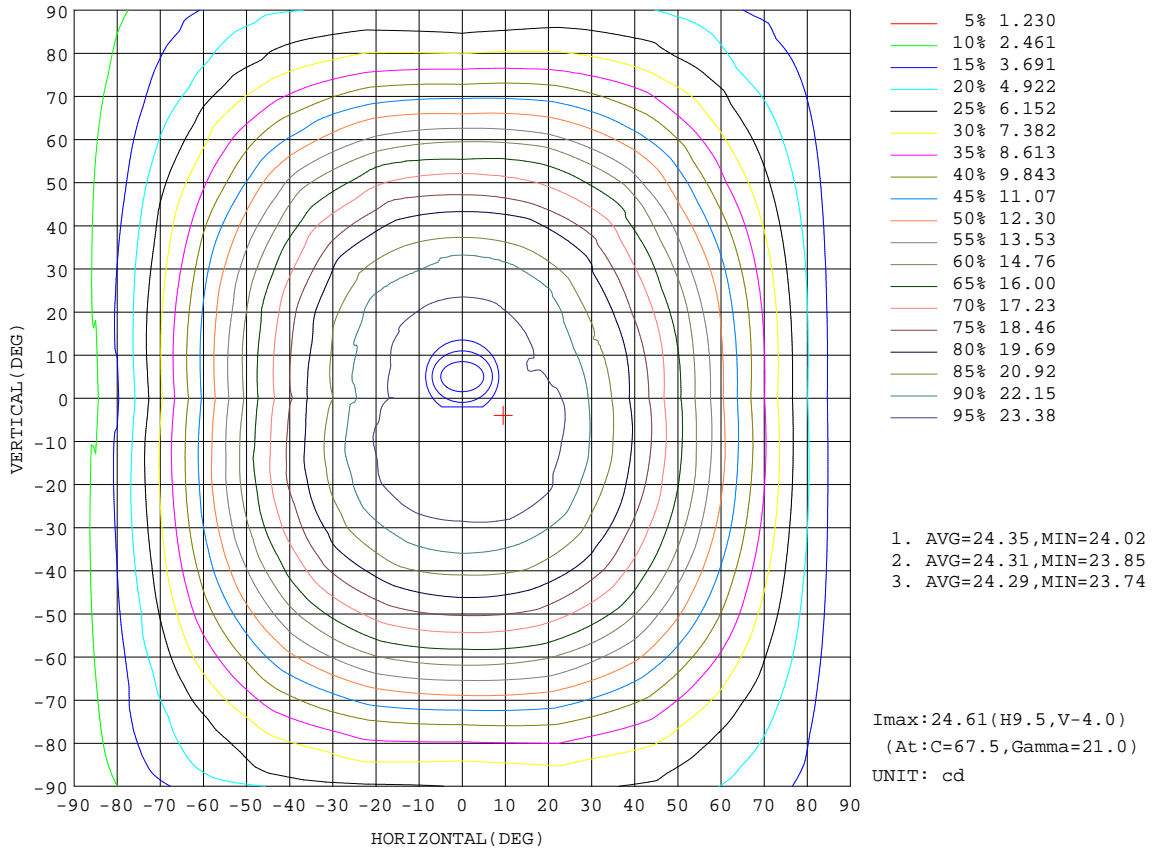
| REFLECTANCE                      |  |     |           |     |     |     |               |     |     |        |
|----------------------------------|--|-----|-----------|-----|-----|-----|---------------|-----|-----|--------|
| Ceiling                          | 0.8  | 0.8 | 0.8       | 0.7 | 0.7 | 0.7 | 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) x RCR = 5 |     |           |     |     |     |               |     |     |        |
| k = 0.60                         | 52   | 40  | 32        | 51  | 39  | 32  | 50            | 39  | 32  | 25     |
| 0.80                             | 62   | 49  | 41        | 60  | 48  | 41  | 58            | 47  | 40  | 33     |
| 1.00                             | 70   | 57  | 49        | 68  | 56  | 49  | 65            | 58  | 48  | 40     |
| 1.25                             | 77   | 65  | 56        | 75  | 64  | 56  | 72            | 62  | 55  | 47     |
| 1.50                             | 82   | 70  | 62        | 80  | 69  | 61  | 76            | 67  | 60  | 51     |
| 2.00                             | 89   | 79  | 71        | 87  | 77  | 70  | 82            | 74  | 68  | 59     |
| 2.50                             | 93   | 84  | 76        | 91  | 82  | 75  | 86            | 79  | 73  | 63     |
| 3.00                             | 97   | 88  | 82        | 94  | 86  | 80  | 89            | 83  | 78  | 67     |
| 4.00                             | 101  | 94  | 88        | 98  | 92  | 87  | 93            | 88  | 83  | 72     |
| 5.00                             | 104  | 98  | 93        | 101 | 96  | 91  | 96            | 91  | 87  | 76     |
| ROOM INDEX                       | UF(total)                                    |     |           |     |     |     |               |     |     | Direct |
| According to DIN EN 13032-2 2004 |  |     | Suspended |     |     |     | SHRNOM = 1.25 |     |     |        |

C Range: 0 - 360DEG  
 C Interval: 22.5DEG  
 Test Speed: HIGH  
 Temperature:24.5DEG  
 Operators:William  
 Test Date:2018-09-19

γ Range: 0 - 180DEG  
 γ Interval: 1.0DEG  
 Test System:EVERFINE GO-R5000\_V2 SYSTEM V2.0.366  
 Humidity:65.7%  
 Test Distance:26.000m [K=1.3825]  
 Remarks:

ISOCANDELA DIAGRAM

|   |          |                     |
|---|----------|---------------------|
| Test:U:0V I:0A P:0W PF:0.0000 Freq:0Hz Lamp Flux:94.6114x1 lm |          |                     |
| NAME: Emergency Exit Luminaire                                | TYPE:LED | WEIGHT:N/A          |
| SPEC.:N/A   | DIM.:    | SERIAL No.:N/A      |
| MFR.: CETRAM LIMITED  | SUR.:    | Shielding Angle:N/A |



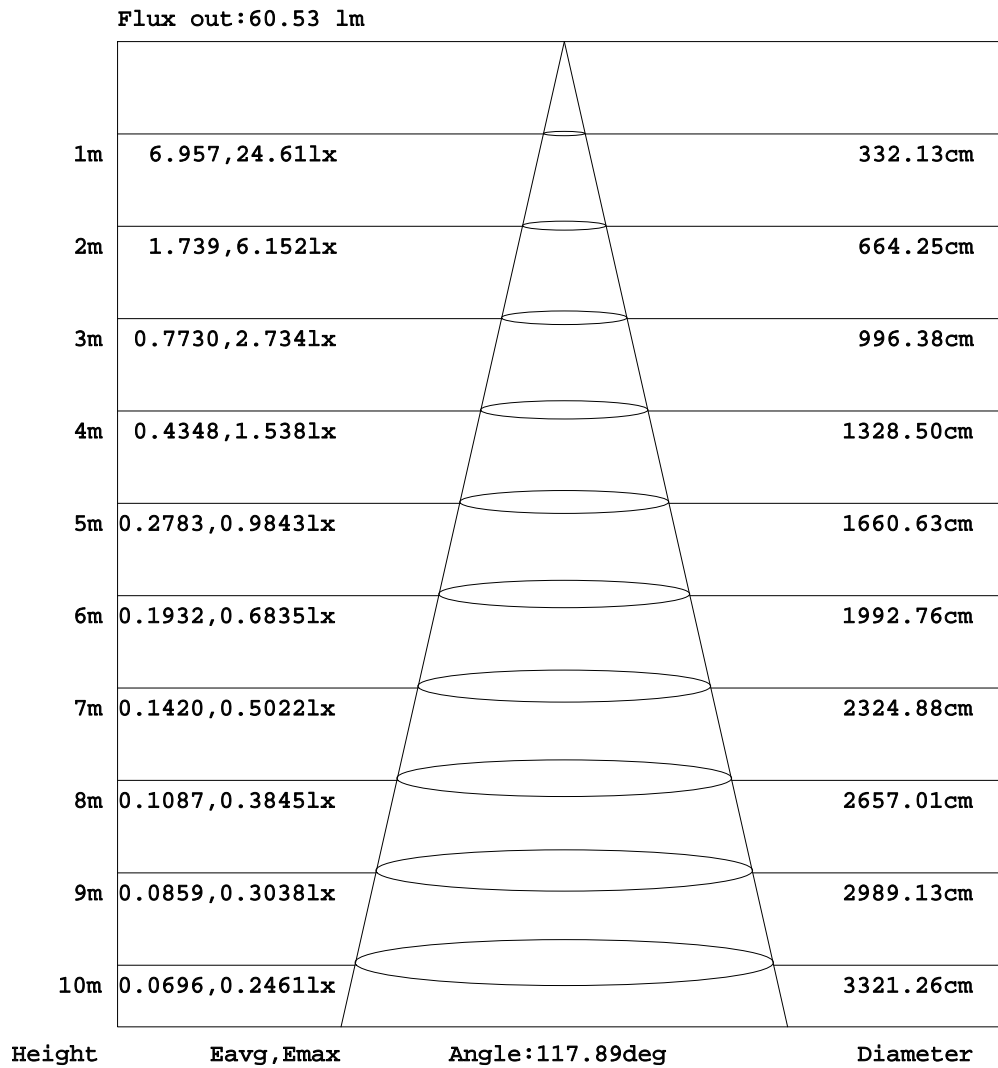
C Range: 0 - 360DEG  
 C Interval: 22.5DEG  
 Test Speed: HIGH  
 Temperature: 24.5DEG  
 Operators: William  
 Test Date: 2018-09-19

γ Range: 0 - 180DEG  
 γ Interval: 1.0DEG  
 Test System: EVERFINE GO-R5000\_V2 SYSTEM V2.0.366  
 Humidity: 65.7%  
 Test Distance: 26.000m [K=1.3825]  
 Remarks:



AAI Figure

|   |          |                     |
|---|----------|---------------------|
| Test:U:0V I:0A P:0W PF:0.0000 Freq:0Hz Lamp Flux:94.6114x1 lm |          |                     |
| NAME: Emergency Exit Luminaire                                | TYPE:LED | WEIGHT:N/A          |
| SPEC.:N/A   | DIM.:    | SERIAL No.:N/A      |
| MFR.: CETRAM LIMITED  | SUR.:    | Shielding Angle:N/A |



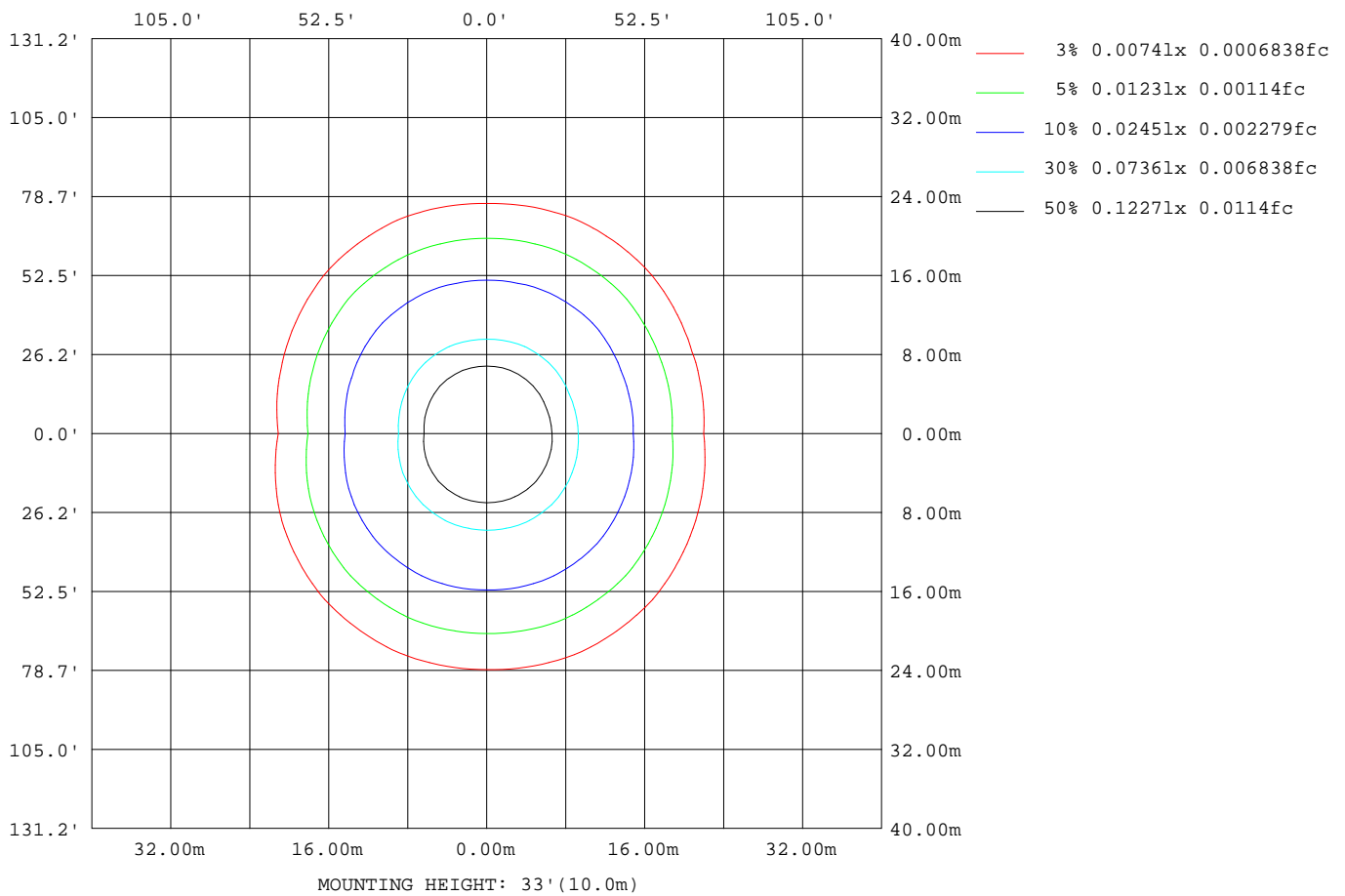
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG  
 C Interval: 22.5DEG  
 Test Speed: HIGH  
 Temperature:24.5DEG  
 Operators:William  
 Test Date:2018-09-19

γ Range: 0 - 180DEG  
 γ Interval: 1.0DEG  
 Test System:EVERFINE GO-R5000\_V2 SYSTEM V2.0.366  
 Humidity:65.7%  
 Test Distance:26.000m [K=1.3825]  
 Remarks:

ISOLUX DIAGRAM

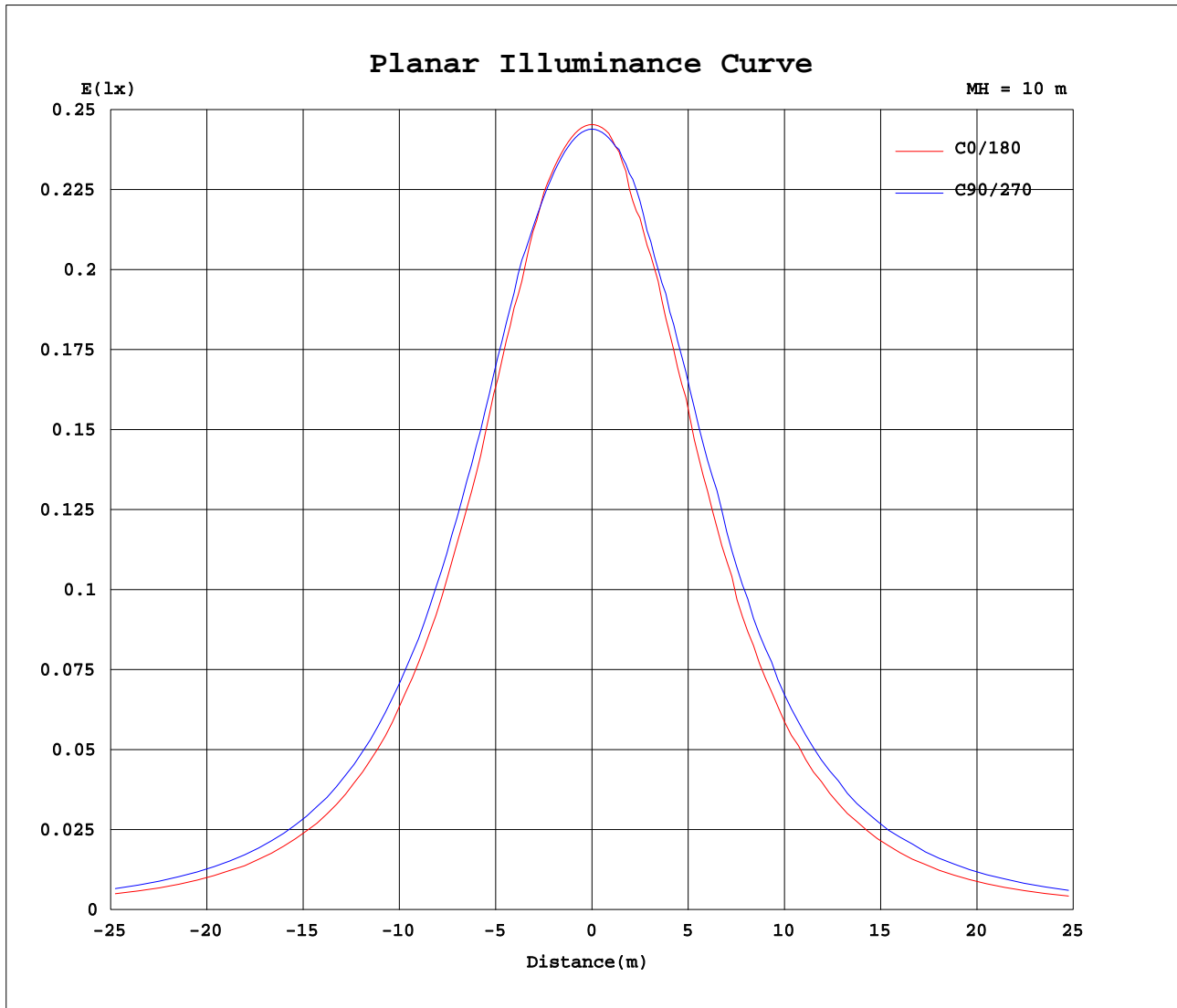
|   |          |                     |
|---|----------|---------------------|
| Test:U:0V I:0A P:0W PF:0.0000 Freq:0Hz Lamp Flux:94.6114x1 lm |          |                     |
| NAME: Emergency Exit Luminaire                                | TYPE:LED | WEIGHT:N/A          |
| SPEC.:N/A   | DIM.:    | SERIAL No.:N/A      |
| MFR.: CETRAM LIMITED  | SUR.:    | Shielding Angle:N/A |



C Range: 0 - 360DEG  
 C Interval: 22.5DEG  
 Test Speed: HIGH  
 Temperature:24.5DEG  
 Operators:William  
 Test Date:2018-09-19

γ Range: 0 - 180DEG  
 γ Interval: 1.0DEG  
 Test System:EVERFINE GO-R5000\_V2 SYSTEM V2.0.366  
 Humidity:65.7%  
 Test Distance:26.000m [K=1.3825]  
 Remarks:

### Planar Illuminance Curve



C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: HIGH  
Temperature: 24.5DEG  
Operators: William  
Test Date: 2018-09-19

$\gamma$  Range: 0 - 180DEG  
 $\gamma$  Interval: 1.0DEG  
Test System: EVERFINE GO-R5000\_V2 SYSTEM V2.0.366  
Humidity: 65.7%  
Test Distance: 26.000m [K=1.3825]  
Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

|   |          |                     |
|---|----------|---------------------|
| Test:U:0V I:0A P:0W PF:0.0000 Freq:0Hz Lamp Flux:94.6114x1 lm |          |                     |
| NAME: Emergency Exit Luminaire                                | TYPE:LED | WEIGHT:N/A          |
| SPEC.:N/A   | DIM.:    | SERIAL No.:N/A      |
| MFR.: CETRAM LIMITED  | SUR.:    | Shielding Angle:N/A |

Table--1

UNIT: cd

| C(DEG)<br>γ (DEG) | 0    | 22.5 | 45   | 67.5 | 90   | 112.5 | 135  | 157.5 | 180  | 202.5 | 225  | 247.5 | 270  | 292.5 | 315  | 337.5 |  |  |  |
|-------------------|------|------|------|------|------|-------|------|-------|------|-------|------|-------|------|-------|------|-------|--|--|--|
| 0                 | 24.4 | 24.4 | 24.4 | 24.4 | 24.4 | 24.4  | 24.4 | 24.4  | 24.4 | 24.4  | 24.4 | 24.4  | 24.4 | 24.4  | 24.4 | 24.4  |  |  |  |
| 5                 | 24.4 | 24.3 | 24.4 | 24.4 | 24.4 | 24.4  | 24.3 | 24.3  | 24.4 | 24.2  | 24.3 | 24.4  | 24.4 | 24.4  | 24.2 | 24.1  |  |  |  |
| 10                | 24.4 | 24.4 | 24.4 | 24.5 | 24.4 | 24.4  | 24.3 | 24.3  | 24.0 | 23.6  | 24.2 | 24.4  | 24.4 | 24.3  | 24.1 | 23.9  |  |  |  |
| 15                | 24.3 | 24.3 | 24.4 | 24.5 | 24.4 | 24.4  | 24.3 | 24.3  | 23.4 | 23.5  | 23.7 | 24.1  | 24.1 | 23.8  | 23.8 | 23.7  |  |  |  |
| 20                | 23.5 | 23.8 | 24.2 | 24.5 | 24.5 | 24.3  | 24.3 | 23.8  | 22.8 | 23.0  | 23.4 | 23.8  | 23.6 | 23.6  | 23.6 | 23.5  |  |  |  |
| 25                | 23.0 | 23.2 | 23.8 | 24.1 | 23.9 | 23.7  | 23.7 | 23.2  | 22.0 | 22.2  | 23.0 | 23.4  | 23.3 | 23.3  | 23.2 | 22.7  |  |  |  |
| 30                | 21.8 | 22.4 | 23.1 | 23.5 | 23.1 | 23.1  | 22.9 | 22.3  | 20.8 | 21.2  | 22.3 | 22.6  | 22.5 | 22.4  | 22.5 | 21.8  |  |  |  |
| 35                | 20.7 | 21.3 | 22.1 | 22.5 | 22.3 | 22.2  | 21.9 | 21.1  | 19.7 | 20.2  | 21.2 | 21.8  | 21.5 | 21.4  | 21.3 | 20.7  |  |  |  |
| 40                | 19.3 | 20.0 | 21.0 | 21.4 | 21.2 | 21.1  | 20.9 | 19.8  | 18.3 | 19.0  | 20.0 | 20.4  | 20.3 | 20.4  | 20.3 | 19.6  |  |  |  |
| 45                | 17.9 | 18.7 | 19.7 | 20.3 | 20.0 | 19.9  | 19.4 | 18.4  | 16.5 | 17.5  | 18.6 | 19.3  | 19.0 | 19.1  | 18.9 | 18.0  |  |  |  |
| 50                | 16.1 | 17.2 | 18.3 | 18.9 | 18.6 | 18.5  | 18.1 | 16.9  | 15.0 | 16.1  | 17.4 | 17.8  | 17.7 | 17.7  | 17.6 | 16.5  |  |  |  |
| 55                | 14.2 | 15.5 | 16.8 | 17.2 | 17.1 | 17.0  | 16.6 | 15.2  | 13.1 | 14.2  | 15.6 | 16.3  | 16.1 | 16.3  | 16.2 | 15.2  |  |  |  |
| 60                | 12.5 | 13.8 | 15.1 | 15.7 | 15.4 | 15.4  | 14.7 | 13.4  | 11.3 | 12.6  | 13.9 | 14.6  | 14.4 | 14.8  | 14.3 | 13.2  |  |  |  |
| 65                | 10.5 | 11.9 | 13.3 | 13.9 | 13.7 | 13.7  | 13.1 | 11.5  | 9.17 | 10.6  | 12.1 | 12.9  | 12.8 | 12.9  | 12.8 | 11.5  |  |  |  |
| 70                | 8.60 | 10.0 | 11.6 | 12.2 | 11.9 | 11.8  | 11.2 | 9.69  | 7.15 | 8.71  | 10.5 | 11.0  | 10.8 | 11.2  | 10.8 | 9.38  |  |  |  |
| 75                | 6.65 | 8.29 | 9.83 | 10.5 | 10.1 | 10.2  | 9.48 | 7.86  | 5.27 | 6.99  | 8.52 | 9.32  | 9.15 | 9.34  | 8.96 | 7.62  |  |  |  |
| 80                | 4.92 | 6.56 | 8.17 | 8.83 | 8.50 | 8.63  | 7.80 | 6.16  | 3.54 | 5.40  | 6.93 | 7.65  | 7.34 | 7.89  | 7.29 | 6.01  |  |  |  |
| 85                | 3.54 | 5.33 | 6.87 | 7.51 | 7.20 | 7.32  | 6.71 | 4.99  | 2.31 | 4.10  | 5.85 | 6.34  | 6.10 | 6.38  | 6.12 | 4.62  |  |  |  |
| 90                | 2.68 | 4.32 | 5.92 | 6.49 | 6.25 | 5.74  | 4.98 | 3.74  | 1.44 | 3.24  | 4.68 | 5.31  | 5.07 | 5.42  | 4.93 | 3.58  |  |  |  |
| 95                | 1.09 | 1.16 | 0.80 | 1.20 | 1.74 | 2.21  | 0.73 | 0.74  | 0.07 | 0.21  | 0.94 | 1.52  | 1.56 | 1.91  | 0.88 | 0.36  |  |  |  |
| 100               | 0.00 | 0.00 | 1.16 | 3.64 | 4.29 | 3.69  | 1.60 | 0.15  | 0.00 | 0.00  | 1.44 | 3.28  | 3.71 | 3.62  | 1.68 | 0.00  |  |  |  |
| 105               | 0.00 | 0.00 | 1.30 | 3.06 | 3.56 | 2.97  | 1.60 | 0.00  | 0.00 | 0.00  | 1.30 | 2.40  | 3.12 | 2.39  | 1.39 | 0.15  |  |  |  |
| 110               | 1.01 | 0.43 | 1.09 | 2.04 | 2.48 | 1.96  | 0.88 | 0.00  | 1.09 | 0.58  | 0.36 | 1.31  | 1.96 | 1.30  | 0.43 | 1.18  |  |  |  |
| 115               | 1.66 | 1.30 | 0.58 | 0.88 | 1.32 | 0.73  | 0.37 | 0.66  | 1.16 | 0.58  | 0.22 | 0.21  | 0.65 | 0.21  | 0.07 | 1.32  |  |  |  |
| 120               | 1.59 | 1.30 | 0.58 | 0.22 | 0.15 | 0.15  | 0.29 | 0.66  | 1.16 | 0.50  | 0.22 | 0.00  | 0.00 | 0.00  | 0.00 | 1.17  |  |  |  |
| 125               | 1.59 | 1.30 | 0.58 | 0.00 | 0.00 | 0.00  | 0.29 | 0.66  | 1.15 | 0.43  | 0.22 | 0.00  | 0.00 | 0.00  | 0.00 | 1.10  |  |  |  |
| 130               | 1.59 | 1.30 | 0.58 | 0.00 | 0.00 | 0.00  | 0.29 | 0.66  | 0.65 | 0.29  | 0.07 | 0.00  | 0.00 | 0.00  | 0.00 | 0.66  |  |  |  |
| 135               | 1.45 | 1.30 | 0.58 | 0.00 | 0.00 | 0.00  | 0.29 | 0.66  | 0.36 | 0.21  | 0.00 | 0.00  | 0.00 | 0.00  | 0.00 | 0.44  |  |  |  |
| 140               | 1.23 | 1.01 | 0.51 | 0.00 | 0.00 | 0.00  | 0.29 | 0.59  | 0.29 | 0.00  | 0.00 | 0.00  | 0.00 | 0.00  | 0.00 | 0.22  |  |  |  |
| 145               | 0.94 | 0.79 | 0.51 | 0.00 | 0.00 | 0.00  | 0.22 | 0.51  | 0.07 | 0.00  | 0.00 | 0.00  | 0.00 | 0.00  | 0.00 | 0.00  |  |  |  |
| 150               | 0.79 | 0.58 | 0.29 | 0.00 | 0.00 | 0.00  | 0.15 | 0.37  | 0.07 | 0.00  | 0.00 | 0.00  | 0.00 | 0.00  | 0.00 | 0.00  |  |  |  |
| 155               | 0.44 | 0.43 | 0.22 | 0.00 | 0.00 | 0.00  | 0.07 | 0.22  | 0.00 | 0.00  | 0.00 | 0.00  | 0.00 | 0.00  | 0.00 | 0.00  |  |  |  |
| 160               | 0.22 | 0.22 | 0.00 | 0.00 | 0.00 | 0.00  | 0.00 | 0.07  | 0.00 | 0.00  | 0.00 | 0.00  | 0.00 | 0.00  | 0.00 | 0.00  |  |  |  |
| 165               | 0.07 | 0.07 | 0.00 | 0.00 | 0.00 | 0.00  | 0.00 | 0.00  | 0.00 | 0.00  | 0.00 | 0.00  | 0.00 | 0.00  | 0.00 | 0.00  |  |  |  |
| 170               | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00  | 0.00 | 0.00  | 0.00 | 0.00  | 0.00 | 0.00  | 0.00 | 0.00  | 0.00 | 0.00  |  |  |  |
| 175               | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00  | 0.00 | 0.00  | 0.00 | 0.00  | 0.00 | 0.00  | 0.00 | 0.00  | 0.00 | 0.00  |  |  |  |
| 180               | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00  | 0.00 | 0.00  | 0.00 | 0.00  | 0.00 | 0.00  | 0.00 | 0.00  | 0.00 | 0.00  |  |  |  |

C Range: 0 - 360DEG  
 C Interval: 22.5DEG  
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γ Range: 0 - 180DEG  
 γ Interval: 1.0DEG  
 Test System:EVERFINE GO-R5000\_V2 SYSTEM V2.0.366  
 Humidity:65.7%  
 Test Distance:26.000m [K=1.3825]  
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