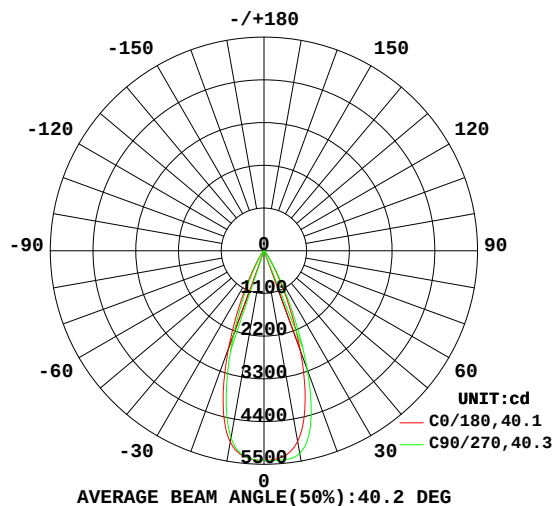


## LUMINAIRE PHOTOMETRIC TEST REPORT

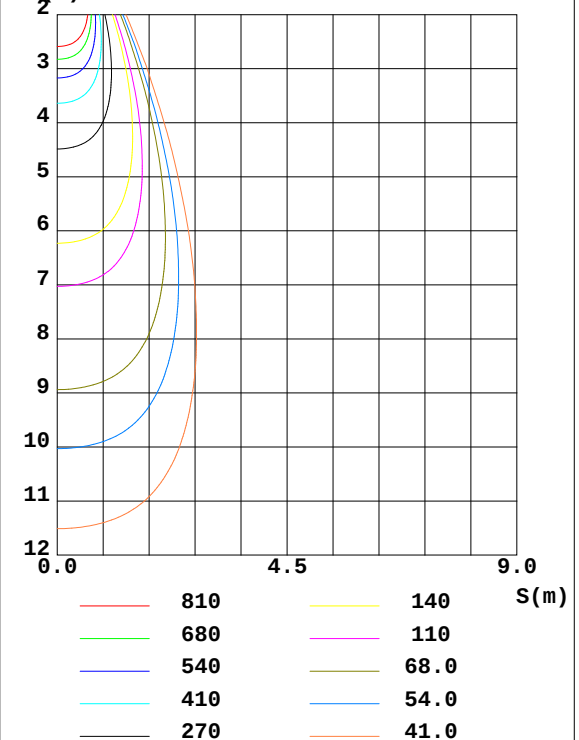
|                              |       |                  |
|------------------------------|-------|------------------|
| NAME: VM090                  | TYPE: | WEIGHT:1         |
| SPEC.:BR 3000K 34W 90CRI 38D | DIM.: | SERIAL No.:      |
| MFR.:                        | SUR.: | Shielding Angle: |

| DATA OF LAMP     |         | PHOTOMETRIC DATA Eff: 75.06 lm/W |        |                         |           |
|------------------|---------|----------------------------------|--------|-------------------------|-----------|
| MODEL            |         | Imax(cd)                         | 5409   | S/MH(C0/180)            | 0.61      |
| NOMINAL POWER(W) | 34      | LOR(%)                           | 100.4  | S/MH(C90/270)           | 0.58      |
| RATED VOLTAGE(V) | 230     | TOTAL FLUX(lm)                   | 2554.4 | $\eta$ UP, DN(C0-180)   | 1.2, 52.9 |
| NOMINAL FLUX(lm) | 2544.26 | CIE CLASS                        | DIRECT | $\eta$ UP, DN(C180-360) | 1.4, 44.9 |
| LAMPS INSIDE     | 1       | $\eta$ up(%)                     | 2.6    | CIBSE SHR NOM           | 0.50      |
| TEST VOLTAGE(V)  | 230     | $\eta$ down(%)                   | 97.8   | CIBSE SHR MAX           | 0.65      |

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



C0 PLANE ISOLUX DIAGRAM (UNIT:lx)



C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: MEDIUM  
Temperature:28DEG  
Operators:HTJ  
Test Date:2020-08-26

$\gamma$  Range: 0 - 180DEG  
 $\gamma$  Interval: 0.5DEG  
Test System:EVERFINE G0-2000B\_V1 SYSTEM V2.0.401  
Humidity:65.0%  
Test Distance:5.190m [K=1.0000]  
Remarks:

## ZONAL FLUX DIAGRAM

## ZONAL FLUX DIAGRAM:

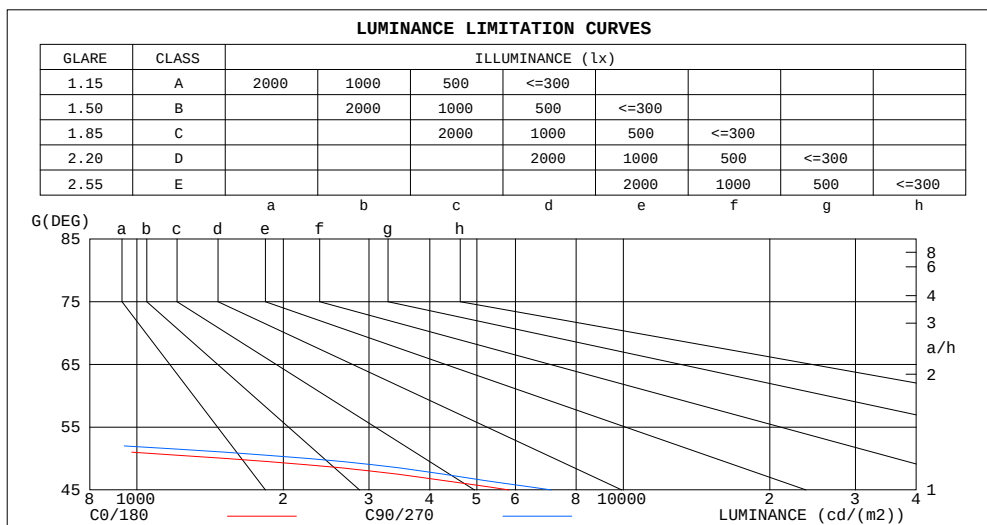
| $\gamma$ | C0                    | C45    | C90    | C135   | C180  | C225  | C270  | C315  | $\gamma$ | $\Phi$ zone | $\Phi$ total | %lum, lamp |
|----------|-----------------------|--------|--------|--------|-------|-------|-------|-------|----------|-------------|--------------|------------|
| 10       | 4986                  | 5224   | 5298   | 5170   | 5002  | 4905  | 4891  | 4917  | 0- 10    | 502.1       | 502.1        | 19.7,19.7  |
| 20       | 2745                  | 3159   | 3258   | 2996   | 2673  | 2363  | 2276  | 2448  | 10- 20   | 1113        | 1615         | 63.2,63.5  |
| 30       | 616.2                 | 733.1  | 711.2  | 618.5  | 540.5 | 453.4 | 407.4 | 479.1 | 20- 30   | 658.6       | 2273         | 89,89.4    |
| 40       | 102.5                 | 119.4  | 117.2  | 105.3  | 96.98 | 83.56 | 75.13 | 83.53 | 30- 40   | 157.2       | 2431         | 95.2,95.5  |
| 50       | 9.383                 | 12.81  | 13.95  | 12.92  | 16.86 | 15.65 | 16.09 | 15.92 | 40- 50   | 34.78       | 2465         | 96.5,96.9  |
| 60       | 1.951                 | 0.7473 | 0.7785 | 1.089  | 20.61 | 23.78 | 26.52 | 24.05 | 50- 60   | 9.129       | 2475         | 96.9,97.3  |
| 70       | 1.082                 | 0.5177 | 0.5304 | 0.5567 | 12.72 | 13.46 | 14.19 | 13.11 | 60- 70   | 9.900       | 2484         | 97.3,97.6  |
| 80       | 0.5965                | 0.4956 | 0.5107 | 0.5543 | 1.001 | 1.153 | 1.343 | 1.019 | 70- 80   | 2.913       | 2487         | 97.4,97.8  |
| 90       | 0.6297                | 0.6015 | 0.6057 | 0.6209 | 1.362 | 2.435 | 2.353 | 1.906 | 80- 90   | 1.145       | 2488         | 97.4,97.8  |
| 100      | 1.017                 | 0.7555 | 0.7516 | 0.8781 | 2.194 | 1.483 | 1.413 | 2.373 | 90-100   | 1.589       | 2490         | 97.5,97.9  |
| 110      | 1.381                 | 1.020  | 0.9950 | 1.211  | 1.975 | 2.260 | 2.130 | 2.263 | 100-110  | 1.530       | 2492         | 97.5,97.9  |
| 120      | 3.029                 | 2.799  | 2.530  | 2.833  | 3.541 | 4.320 | 5.027 | 3.789 | 110-120  | 2.266       | 2494         | 97.6,98    |
| 130      | 9.464                 | 8.410  | 8.001  | 8.891  | 10.22 | 12.05 | 11.88 | 10.84 | 120-130  | 5.596       | 2499         | 97.8,98.2  |
| 140      | 19.24                 | 17.83  | 17.43  | 18.50  | 20.59 | 21.02 | 24.39 | 20.09 | 130-140  | 11.30       | 2511         | 98.3,98.7  |
| 150      | 29.85                 | 28.49  | 28.20  | 28.84  | 30.32 | 31.67 | 31.77 | 30.84 | 140-150  | 15.58       | 2526         | 98.9,99.3  |
| 160      | 35.65                 | 34.71  | 34.34  | 34.90  | 35.59 | 35.72 | 35.54 | 35.74 | 150-160  | 15.41       | 2542         | 99.5,99.9  |
| 170      | 32.58                 | 32.23  | 31.73  | 31.68  | 32.44 | 31.71 | 32.30 | 32.07 | 160-170  | 9.747       | 2551         | 99.9,100   |
| 180      | 30.55                 | 30.96  | 30.49  | 30.81  | 30.59 | 31.00 | 30.55 | 30.83 | 170-180  | 2.968       | 2554         | 100,100    |
| DEG      | LUMINOUS INTENSITY:cd |        |        |        |       |       |       |       |          | UNIT: lm    |              |            |

C Range: 0 - 360DEG  
 C Interval: 22.5DEG  
 Test Speed: MEDIUM  
 Temperature:28DEG  
 Operators:HTJ  
 Test Date:2020-08-26

$\gamma$  Range: 0 - 180DEG  
 $\gamma$  Interval: 0.5DEG  
 $\gamma$  Test System:EVERFINE G0-2000B\_V1 SYSTEM V2.0.401  
 Humidity:65.0%  
 Test Distance:5.190m [K=1.0000]  
 Remarks:

## LUMINANCE LIMITATION CURVES

|                              |       |                  |
|------------------------------|-------|------------------|
| NAME: VM090                  | TYPE: | WEIGHT:1         |
| SPEC.:BR 3000K 34W 90CRI 38D | DIM.: | SERIAL No.:      |
| MFR.:                        | SUR.: | Shielding Angle: |



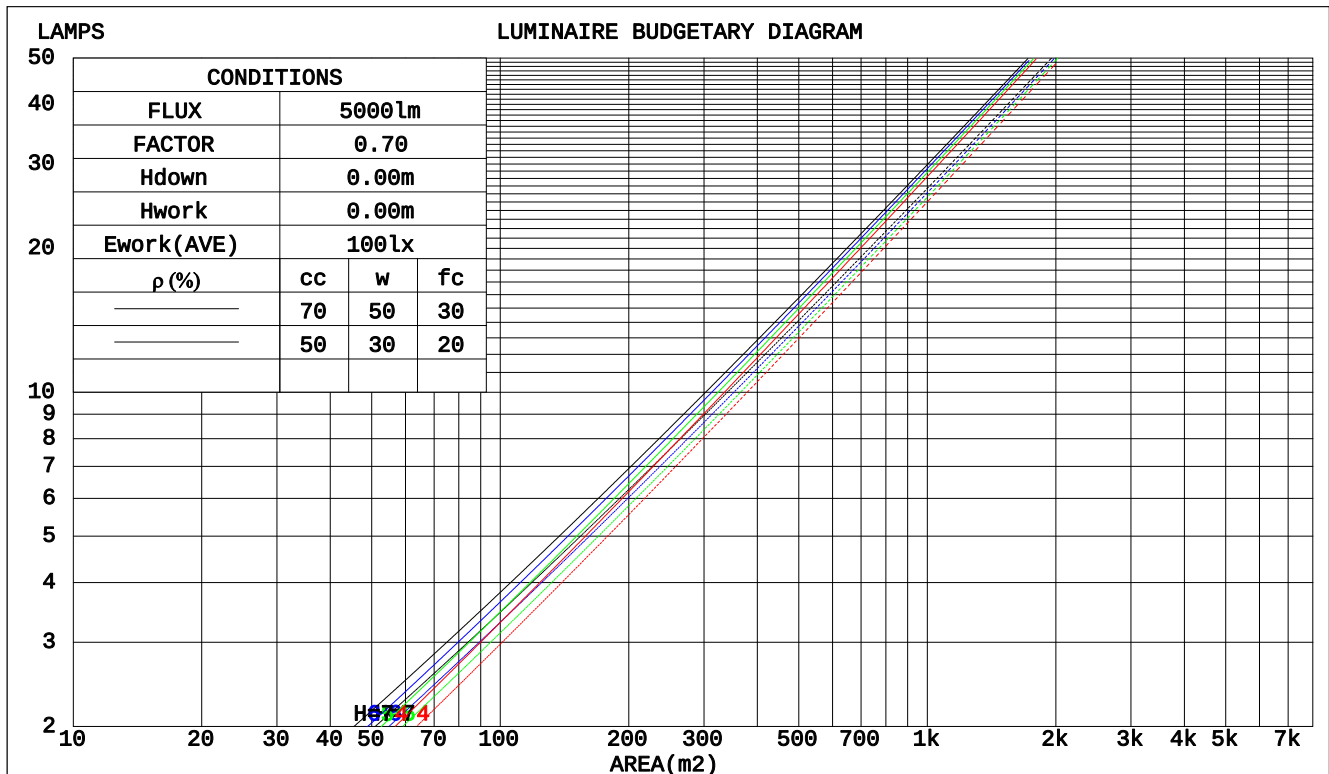
C Range: 0 - 360DEG  
 C Interval: 22.5DEG  
 Test Speed: MEDIUM  
 Temperature: 28DEG  
 Operators: HTJ  
 Test Date: 2020-08-26

γ Range: 0 - 180DEG  
 γ Interval: 0.5DEG  
 Test System: EVERFINE G0-2000B\_V1 SYSTEM V2.0.401  
 Humidity: 65.0%  
 Test Distance: 5.190m [K=1.0000]  
 Remarks:

## CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

|                              |       |                  |
|------------------------------|-------|------------------|
| NAME: VM090                  | TYPE: | WEIGHT:1         |
| SPEC.:BR 3000K 34W 90CRI 38D | DIM.: | SERIAL No.:      |
| MFR.:                        | SUR.: | Shielding Angle: |

| $\rho_{CC}$ | 80%                   |      |      | 70%  |      |      | 50%                             |      |      | 30%  |      |      | 10%  |      |      | 0   |
|-------------|-----------------------|------|------|------|------|------|---------------------------------|------|------|------|------|------|------|------|------|-----|
| $\rho_W$    | 50%                   | 30%  | 10%  | 50%  | 30%  | 10%  | 50%                             | 30%  | 10%  | 50%  | 30%  | 10%  | 50%  | 30%  | 10%  | 0   |
| $\rho_{fc}$ | 20%                   |      |      | 20%  |      |      | 20%                             |      |      | 20%  |      |      | 20%  |      |      | 0   |
| RCR         | RCR:Room Cavity Ratio |      |      |      |      |      | Coefficients of Utilization(CU) |      |      |      |      |      |      |      |      |     |
| 0.0         | 1.19                  | 1.19 | 1.19 | 1.16 | 1.16 | 1.16 | 1.10                            | 1.10 | 1.10 | 1.05 | 1.05 | 1.05 | 1.00 | 1.00 | 1.00 | .98 |
| 1.0         | 1.12                  | 1.10 | 1.08 | 1.09 | 1.07 | 1.06 | 1.05                            | 1.03 | 1.02 | 1.01 | .99  | .98  | .97  | .96  | .95  | .93 |
| 2.0         | 1.05                  | 1.02 | .99  | 1.03 | 1.00 | .98  | .99                             | .97  | .95  | .97  | .95  | .93  | .94  | .92  | .91  | .89 |
| 3.0         | .99                   | .96  | .92  | .98  | .94  | .91  | .95                             | .92  | .90  | .93  | .90  | .88  | .90  | .88  | .86  | .85 |
| 4.0         | .95                   | .90  | .87  | .94  | .89  | .86  | .91                             | .88  | .85  | .89  | .86  | .84  | .87  | .84  | .82  | .81 |
| 5.0         | .90                   | .85  | .82  | .89  | .85  | .81  | .87                             | .83  | .81  | .85  | .82  | .80  | .84  | .81  | .79  | .77 |
| 6.0         | .86                   | .81  | .78  | .85  | .81  | .77  | .84                             | .80  | .77  | .82  | .79  | .76  | .81  | .78  | .75  | .74 |
| 7.0         | .83                   | .78  | .74  | .82  | .77  | .74  | .80                             | .76  | .73  | .79  | .75  | .73  | .78  | .75  | .72  | .71 |
| 8.0         | .79                   | .74  | .71  | .78  | .74  | .71  | .77                             | .73  | .70  | .76  | .72  | .70  | .75  | .72  | .69  | .68 |
| 9.0         | .76                   | .71  | .68  | .75  | .71  | .68  | .74                             | .70  | .67  | .73  | .70  | .67  | .72  | .69  | .67  | .65 |
| 10.0        | .73                   | .68  | .65  | .72  | .68  | .65  | .72                             | .67  | .65  | .71  | .67  | .64  | .70  | .67  | .64  | .63 |



C Range: 0 - 360DEG  
 C Interval: 22.5DEG  
 Test Speed: MEDIUM  
 Temperature: 28DEG  
 Operators: HTJ  
 Test Date: 2020-08-26

$\gamma$  Range: 0 - 180DEG  
 $\gamma$  Interval: 0.5DEG  
 Test System: EVERFINE G0-2000B\_V1 SYSTEM V2.0.401  
 Humidity: 65.0%  
 Test Distance: 5.190m [K=1.0000]  
 Remarks:

## WEC AND CCEC

|                              |       |                  |
|------------------------------|-------|------------------|
| NAME: VM090                  | TYPE: | WEIGHT:1         |
| SPEC.:BR 3000K 34W 90CRI 38D | DIM.: | SERIAL No.:      |
| MFR.:                        | SUR.: | Shielding Angle: |

| $\rho_{cc}$ | 80%                   |      |      | 70%  |      |      | 50%                             |      |      | 30%  |      |      | 10%  |      |      | 0 |  |
|-------------|-----------------------|------|------|------|------|------|---------------------------------|------|------|------|------|------|------|------|------|---|--|
| $\rho_w$    | 50%                   | 30%  | 10%  | 50%  | 30%  | 10%  | 50%                             | 30%  | 10%  | 50%  | 30%  | 10%  | 50%  | 30%  | 10%  | 0 |  |
| $\rho_{fc}$ | 20%                   |      |      | 20%  |      |      | 20%                             |      |      | 20%  |      |      | 20%  |      |      | 0 |  |
| RCR         | RCR:Room Cavity Ratio |      |      |      |      |      | Wall Exitance Coefficients(WEC) |      |      |      |      |      |      |      |      |   |  |
| 0.0         |                       |      |      |      |      |      |                                 |      |      |      |      |      |      |      |      |   |  |
| 1.0         | .157                  | .089 | .028 | .149 | .085 | .027 | .135                            | .078 | .025 | .122 | .071 | .023 | .110 | .064 | .021 |   |  |
| 2.0         | .147                  | .080 | .025 | .140 | .077 | .024 | .129                            | .072 | .022 | .118 | .066 | .021 | .108 | .061 | .019 |   |  |
| 3.0         | .138                  | .073 | .022 | .133 | .071 | .021 | .123                            | .066 | .020 | .113 | .062 | .019 | .105 | .058 | .018 |   |  |
| 4.0         | .130                  | .068 | .020 | .126 | .066 | .019 | .117                            | .062 | .019 | .109 | .058 | .018 | .101 | .055 | .017 |   |  |
| 5.0         | .123                  | .063 | .018 | .119 | .061 | .018 | .112                            | .058 | .017 | .105 | .055 | .016 | .098 | .052 | .016 |   |  |
| 6.0         | .117                  | .059 | .017 | .114 | .057 | .017 | .107                            | .055 | .016 | .101 | .052 | .015 | .095 | .050 | .015 |   |  |
| 7.0         | .112                  | .055 | .016 | .109 | .054 | .015 | .103                            | .052 | .015 | .097 | .050 | .015 | .092 | .048 | .014 |   |  |
| 8.0         | .107                  | .052 | .015 | .104 | .051 | .014 | .099                            | .049 | .014 | .094 | .048 | .014 | .089 | .046 | .013 |   |  |
| 9.0         | .102                  | .050 | .014 | .100 | .049 | .014 | .095                            | .047 | .013 | .091 | .045 | .013 | .087 | .044 | .013 |   |  |
| 10.0        | .098                  | .047 | .013 | .096 | .046 | .013 | .092                            | .045 | .013 | .088 | .044 | .012 | .084 | .042 | .012 |   |  |

| 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  | .211                  | .211 | .211 | .180 | .180 | .180 | .123                                       | .123 | .123 | .071 | .071 | .071 | .023 | .023 | .023 |   |
| 1.0  | .190                  | .178 | .167 | .163 | .153 | .144 | .111                                       | .105 | .099 | .064 | .061 | .058 | .021 | .020 | .019 |   |
| 2.0  | .173                  | .153 | .136 | .149 | .132 | .118 | .102                                       | .091 | .082 | .059 | .053 | .048 | .019 | .017 | .016 |   |
| 3.0  | .160                  | .134 | .114 | .137 | .116 | .098 | .094                                       | .080 | .069 | .054 | .047 | .041 | .017 | .015 | .013 |   |
| 4.0  | .148                  | .119 | .097 | .127 | .103 | .084 | .087                                       | .072 | .059 | .051 | .042 | .035 | .016 | .014 | .012 |   |
| 5.0  | .138                  | .107 | .084 | .119 | .093 | .073 | .082                                       | .065 | .051 | .047 | .038 | .031 | .015 | .012 | .010 |   |
| 6.0  | .130                  | .097 | .074 | .112 | .084 | .064 | .077                                       | .059 | .045 | .045 | .035 | .027 | .014 | .011 | .009 |   |
| 7.0  | .123                  | .089 | .066 | .106 | .078 | .057 | .073                                       | .054 | .041 | .043 | .032 | .024 | .014 | .010 | .008 |   |
| 8.0  | .117                  | .083 | .059 | .101 | .072 | .052 | .070                                       | .051 | .037 | .041 | .030 | .022 | .013 | .010 | .007 |   |
| 9.0  | .112                  | .078 | .054 | .096 | .067 | .047 | .067                                       | .047 | .034 | .039 | .028 | .020 | .013 | .009 | .007 |   |
| 10.0 | .107                  | .073 | .050 | .092 | .063 | .044 | .064                                       | .045 | .031 | .037 | .026 | .019 | .012 | .009 | .006 |   |

C Range: 0 - 360DEG  
 C Interval: 22.5DEG  
 Test Speed: MEDIUM  
 Temperature:28DEG  
 Operators:HTJ  
 Test Date:2020-08-26

$\gamma$  Range: 0 - 180DEG  
 $\gamma$  Interval: 0.5DEG  
 Test System:EVERFINE G0-2000B\_V1 SYSTEM V2.0.401  
 Humidity:65.0%  
 Test Distance:5.190m [K=1.0000]  
 Remarks:

## UGR(Unified Glare Rating) Table

|                                                    |     |                  |     |     |     |       |                |      |                  |      |      |
|----------------------------------------------------|-----|------------------|-----|-----|-----|-------|----------------|------|------------------|------|------|
| NAME: vM090                                        |     |                  |     |     |     | TYPE: |                |      | WEIGHT:1         |      |      |
| SPEC.:BR 3000K 34W 90CRI 38D                       |     |                  |     |     |     | DIM.: |                |      | SERIAL No.:      |      |      |
| MFR.:                                              |     |                  |     |     |     | SUR.: |                |      | 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                                      |     | 8.8              | 9.6 | 9.1 | 9.8 | 10.0  | 9.4            | 10.2 | 9.7              | 10.4 | 10.6 |
| 3H                                                 |     | 8.6              | 9.3 | 8.9 | 9.6 | 9.8   | 9.3            | 10.0 | 9.6              | 10.2 | 10.4 |
| 4H                                                 |     | 8.6              | 9.2 | 8.9 | 9.5 | 9.7   | 9.2            | 9.9  | 9.5              | 10.1 | 10.4 |
| 6H                                                 |     | 8.5              | 9.1 | 8.8 | 9.4 | 9.7   | 9.1            | 9.7  | 9.4              | 10.0 | 10.3 |
| 8H                                                 |     | 8.4              | 9.0 | 8.8 | 9.3 | 9.6   | 9.1            | 9.7  | 9.4              | 9.9  | 10.3 |
| 12H                                                |     | 8.4              | 9.0 | 8.7 | 9.3 | 9.6   | 9.0            | 9.6  | 9.4              | 9.9  | 10.2 |
| 4H 2H                                              |     | 8.6              | 9.2 | 8.9 | 9.5 | 9.7   | 9.2            | 9.9  | 9.5              | 10.1 | 10.4 |
| 3H                                                 |     | 8.4              | 8.9 | 8.7 | 9.3 | 9.6   | 9.0            | 9.6  | 9.4              | 9.9  | 10.2 |
| 4H                                                 |     | 8.3              | 8.8 | 8.7 | 9.1 | 9.5   | 8.9            | 9.4  | 9.3              | 9.8  | 10.1 |
| 6H                                                 |     | 8.2              | 8.6 | 8.6 | 9.0 | 9.4   | 8.8            | 9.3  | 9.2              | 9.6  | 10.0 |
| 8H                                                 |     | 8.1              | 8.5 | 8.5 | 8.9 | 9.4   | 8.7            | 9.2  | 9.2              | 9.6  | 10.0 |
| 12H                                                |     | 8.1              | 8.5 | 8.5 | 8.9 | 9.3   | 8.7            | 9.1  | 9.1              | 9.5  | 9.9  |
| 8H 4H                                              |     | 8.1              | 8.5 | 8.5 | 8.9 | 9.3   | 8.7            | 9.2  | 9.2              | 9.6  | 10.0 |
| 6H                                                 |     | 8.0              | 8.4 | 8.5 | 8.8 | 9.3   | 8.6            | 9.0  | 9.1              | 9.4  | 9.9  |
| 8H                                                 |     | 7.9              | 8.3 | 8.4 | 8.7 | 9.2   | 8.6            | 8.9  | 9.1              | 9.3  | 9.8  |
| 12H                                                |     | 7.9              | 8.2 | 8.4 | 8.7 | 9.2   | 8.5            | 8.8  | 9.0              | 9.3  | 9.8  |
| 12H 4H                                             |     | 8.0              | 8.4 | 8.5 | 8.9 | 9.3   | 8.7            | 9.1  | 9.1              | 9.5  | 9.9  |
| 6H                                                 |     | 7.9              | 8.3 | 8.4 | 8.7 | 9.2   | 8.6            | 8.9  | 9.1              | 9.3  | 9.8  |
| 8H                                                 |     | 7.9              | 8.2 | 8.4 | 8.6 | 9.2   | 8.5            | 8.8  | 9.0              | 9.3  | 9.8  |
| Variations with the observer position at spacings: |     |                  |     |     |     |       |                |      |                  |      |      |
| S = 1.0H                                           |     | + 2.9 / -15.0    |     |     |     |       | + 3.3 / -16.0  |      |                  |      |      |
| 1.5H                                               |     | + 5.3 / -15.5    |     |     |     |       | + 5.6 / -16.3  |      |                  |      |      |
| 2.0H                                               |     | + 7.2 / - 8.3    |     |     |     |       | + 7.5 / - 9.3  |      |                  |      |      |

CIE Pub.117, 2544 lm Total Lamp Luminous Flux Correct ( $8\log(F/F_0) = 3.2$ )

C Range: 0 - 360DEG  
 C Interval: 22.5DEG  
 Test Speed: MEDIUM  
 Temperature:28DEG  
 Operators:HTJ  
 Test Date:2020-08-26

γ Range: 0 - 180DEG  
 γ Interval: 0.5DEG  
 Test System:EVERFINE G0-2000B\_V1 SYSTEM V2.0.401  
 Humidity:65.0%  
 Test Distance:5.190m [K=1.0000]  
 Remarks:

## UTILIZATION FACTORS TABLE

|                              |       |                  |
|------------------------------|-------|------------------|
| NAME: VM090                  | TYPE: | WEIGHT:1         |
| SPEC.:BR 3000K 34W 90CRI 38D | DIM.: | SERIAL No.:      |
| MFR.:                        | SUR.: | Shielding Angle: |

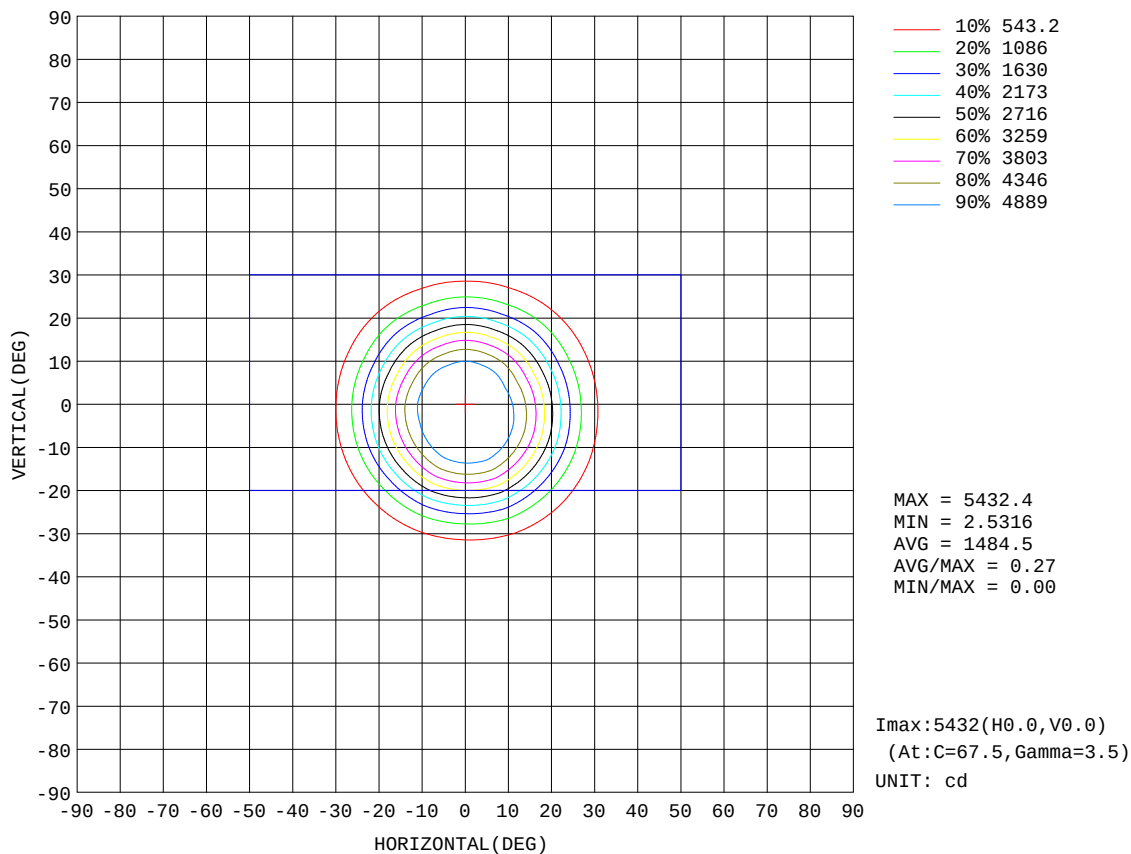
| REFLECTANCE                      |                                                     |     |           |     |     |     |     |               |     |        |
|----------------------------------|-----------------------------------------------------|-----|-----------|-----|-----|-----|-----|---------------|-----|--------|
| 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) $k(RI) \times RCR = 5$ |     |           |     |     |     |     |               |     |        |
| $k = 0.60$                       | 89                                                  | 83  | 79        | 88  | 83  | 79  | 87  | 82            | 79  | 76     |
| 0.80                             | 96                                                  | 91  | 87        | 95  | 90  | 87  | 94  | 89            | 86  | 83     |
| 1.00                             | 100                                                 | 95  | 91        | 99  | 94  | 91  | 97  | 94            | 90  | 86     |
| 1.25                             | 104                                                 | 99  | 96        | 103 | 98  | 95  | 100 | 97            | 94  | 90     |
| 1.50                             | 106                                                 | 102 | 99        | 105 | 101 | 98  | 102 | 99            | 97  | 92     |
| 2.00                             | 109                                                 | 105 | 102       | 107 | 104 | 101 | 104 | 101           | 99  | 93     |
| 2.50                             | 110                                                 | 107 | 104       | 109 | 105 | 103 | 105 | 103           | 101 | 94     |
| 3.00                             | 112                                                 | 109 | 106       | 110 | 107 | 105 | 106 | 104           | 102 | 95     |
| 4.00                             | 114                                                 | 111 | 109       | 112 | 109 | 107 | 108 | 106           | 104 | 97     |
| 5.00                             | 115                                                 | 113 | 111       | 113 | 111 | 109 | 108 | 107           | 106 | 97     |
| 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: MEDIUM  
 Temperature:28DEG  
 Operators:HTJ  
 Test Date:2020-08-26

γ Range: 0 - 180DEG  
 γ Interval: 0.5DEG  
 Test System:EVERFINE G0-2000B\_V1 SYSTEM V2.0.401  
 Humidity:65.0%  
 Test Distance:5.190m [K=1.0000]  
 Remarks:

## ISOCANDELA DIAGRAM

|                              |       |                  |
|------------------------------|-------|------------------|
| NAME: VM090                  | TYPE: | WEIGHT:1         |
| SPEC.:BR 3000K 34W 90CRI 38D | DIM.: | SERIAL No.:      |
| MFR.:                        | SUR.: | Shielding Angle: |



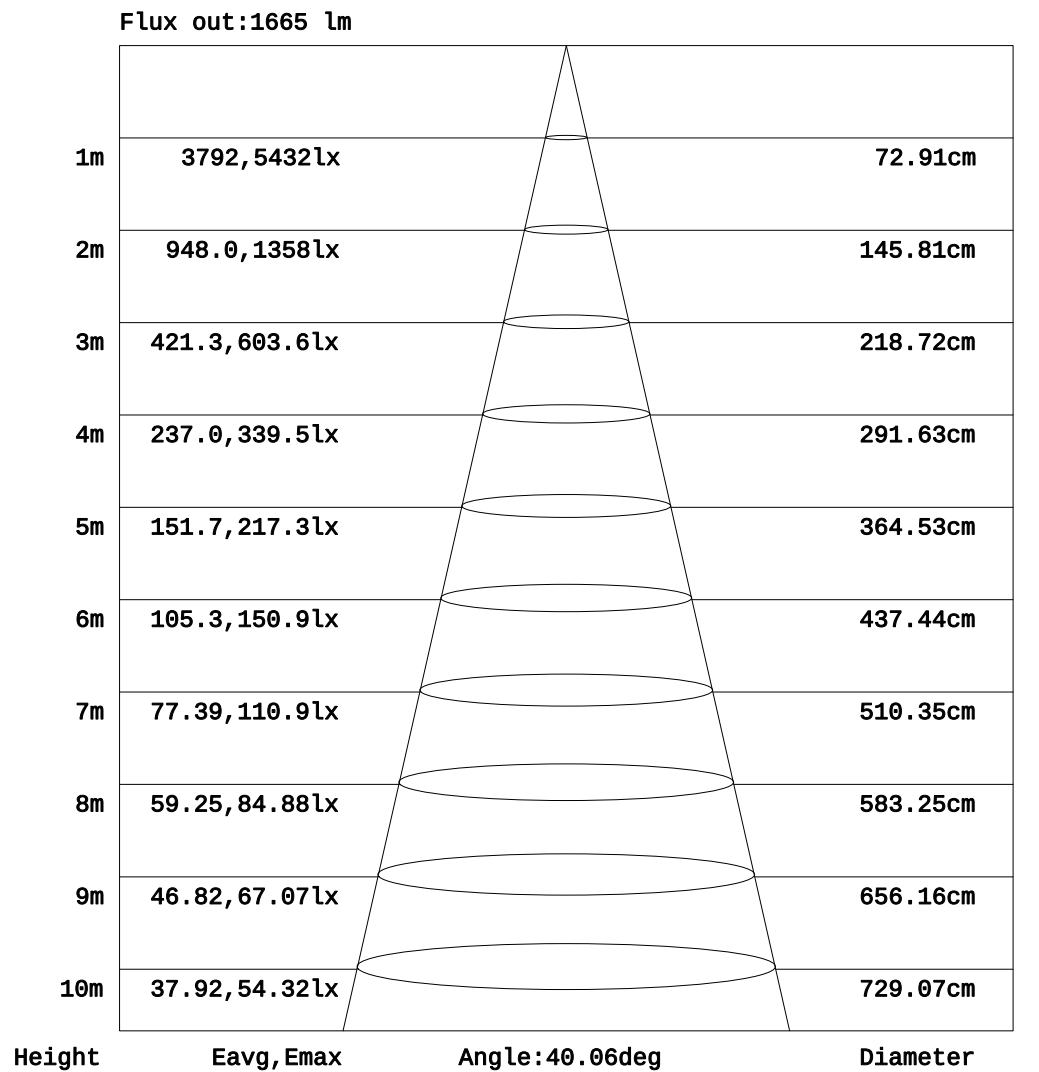
C Range: 0 - 360DEG  
 C Interval: 22.5DEG  
 Test Speed: MEDIUM  
 Temperature:28DEG  
 Operators:HTJ  
 Test Date:2020-08-26

γ Range: 0 - 180DEG  
 γ Interval: 0.5DEG  
 Test System:EVERFINE G0-2000B\_V1 SYSTEM V2.0.401  
 Humidity:65.0%  
 Test Distance:5.190m [K=1.0000]  
 Remarks:



## AAI Figure

|                              |       |                  |
|------------------------------|-------|------------------|
| NAME: VM090                  | TYPE: | WEIGHT:1         |
| SPEC.:BR 3000K 34W 90CRI 38D | DIM.: | SERIAL No.:      |
| MFR.:                        | SUR.: | Shielding Angle: |



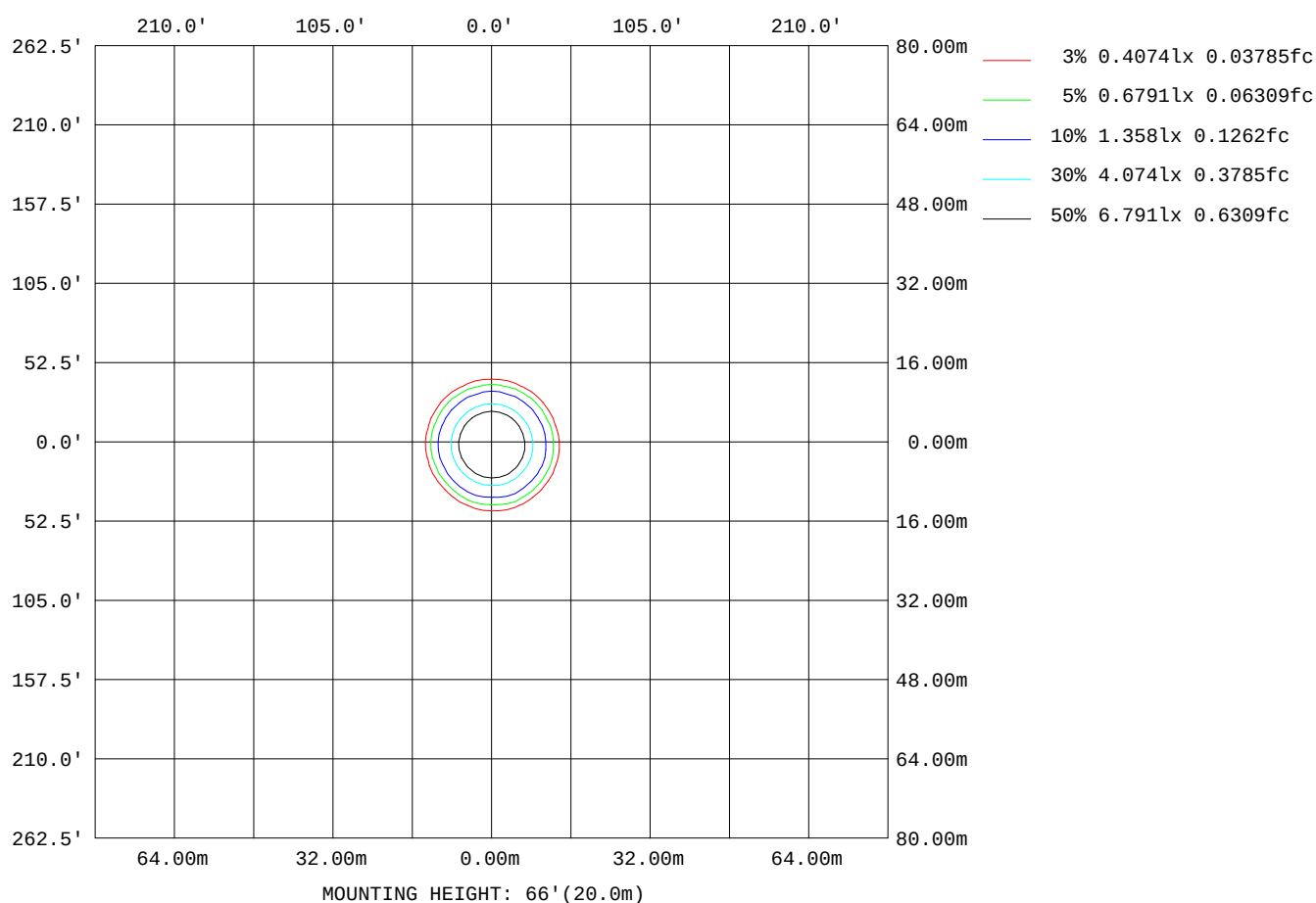
Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG  
 C Interval: 22.5DEG  
 Test Speed: MEDIUM  
 Temperature: 28DEG  
 Operators: HTJ  
 Test Date: 2020-08-26

γ Range: 0 - 180DEG  
 γ Interval: 0.5DEG  
 Test System: EVERFINE G0-2000B\_V1 SYSTEM V2.0.401  
 Humidity: 65.0%  
 Test Distance: 5.190m [K=1.0000]  
 Remarks:

## ISOLUX DIAGRAM

|                              |       |                  |
|------------------------------|-------|------------------|
| NAME: VM090                  | TYPE: | WEIGHT:1         |
| SPEC.:BR 3000K 34W 90CRI 38D | DIM.: | SERIAL No.:      |
| MFR.:                        | SUR.: | Shielding Angle: |



C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: MEDIUM  
Temperature: 28DEG  
Operators: HTJ  
Test Date: 2020-08-26

γ Range: 0 - 180DEG  
γ Interval: 0.5DEG  
Test System: EVERFINE G0-2000B\_V1 SYSTEM V2.0.401  
Humidity: 65.0%  
Test Distance: 5.190m [K=1.0000]  
Remarks:

## LED Avg.L Report

|                              |       |                  |
|------------------------------|-------|------------------|
| NAME: VM090                  | TYPE: | WEIGHT:1         |
| SPEC.:BR 3000K 34W 90CRI 38D | DIM.: | SERIAL No.:      |
| MFR.:                        | SUR.: | Shielding Angle: |

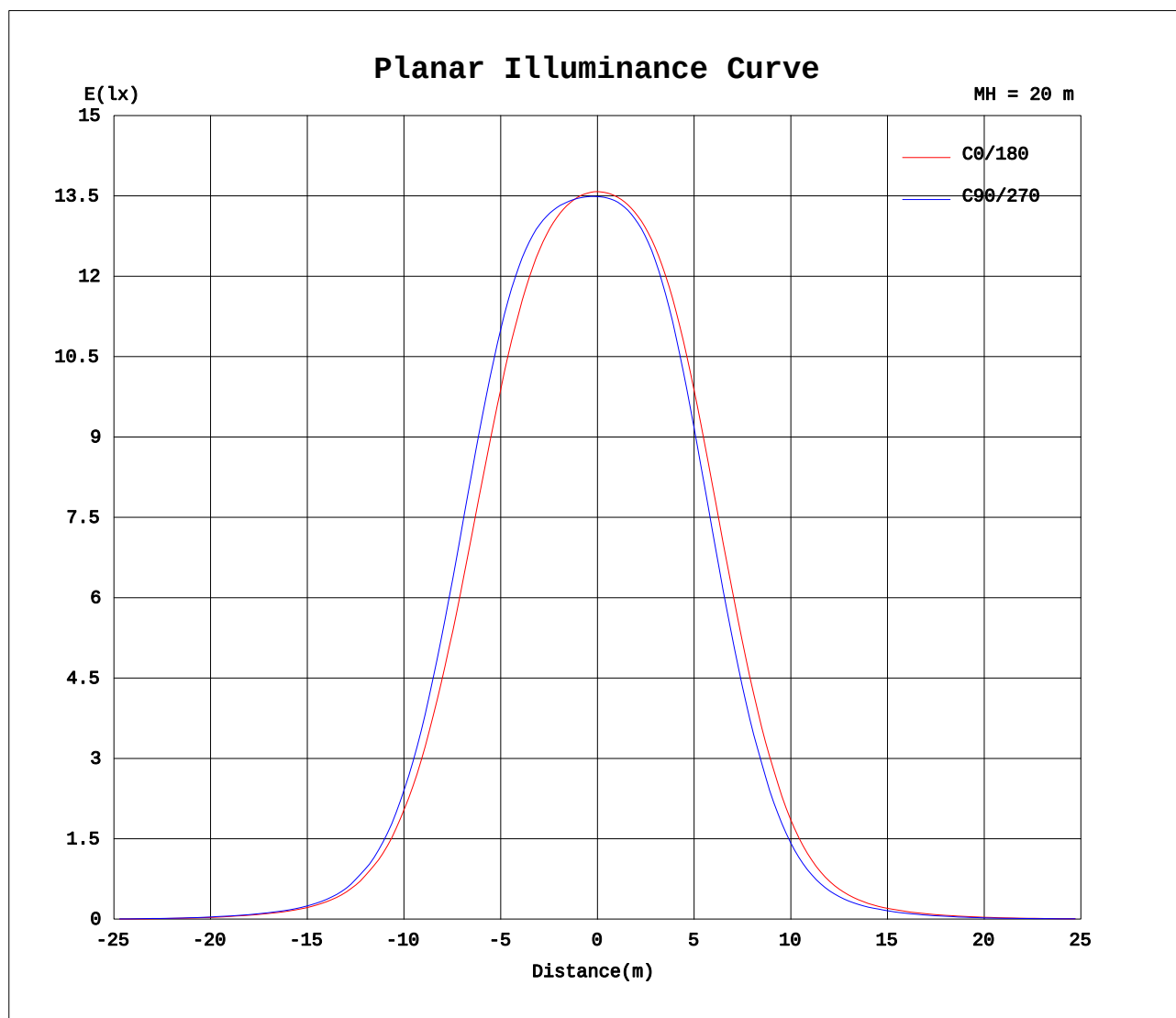
| AvgL           | cd/m2 |
|----------------|-------|
| L_0~180(65)av  | 2537  |
| L_0~180(75)av  | 1013  |
| L_0~180(85)av  | 972   |
| L_90~270(65)av | 2965  |
| L_90~270(75)av | 951   |
| L_90~270(85)av | 1651  |
| L_45(65)av     | 2615  |
| L_45(75)av     | 996   |
| L_45(85)av     | 1328  |

Standard: GB/T 29293-2012

C Range: 0 - 360DEG  
 C Interval: 22.5DEG  
 Test Speed: MEDIUM  
 Temperature: 28DEG  
 Operators: HTJ  
 Test Date: 2020-08-26

γ Range: 0 - 180DEG  
 γ Interval: 0.5DEG  
 Test System: EVERFINE G0-2000B\_V1 SYSTEM V2.0.401  
 Humidity: 65.0%  
 Test Distance: 5.190m [K=1.0000]  
 Remarks:

## Planar Illuminance Curve



C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: MEDIUM  
Temperature: 28DEG  
Operators: HTJ  
Test Date: 2020-08-26

$\gamma$  Range: 0 - 180DEG  
 $\gamma$  Interval: 0.5DEG  
Test System: EVERFINE G0-2000B\_V1 SYSTEM V2.0.401  
Humidity: 65.0%  
Test Distance: 5.190m [K=1.0000]  
Remarks:

# LUMINOUS DISTRIBUTION INTENSITY DATA

|                              |       |                  |
|------------------------------|-------|------------------|
| NAME: VM090                  | TYPE: | WEIGHT:1         |
| SPEC.:BR 3000K 34W 90CRI 38D | DIM.: | SERIAL No.:      |
| MFR.:                        | SUR.: | Shielding Angle: |

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                  | 5401 | 5401 | 5401 | 5401 | 5401 | 5401  | 5401 | 5401  | 5401 | 5401  | 5401 | 5401  | 5401 | 5401  | 5401 | 5401  |  |  |  |
| 5                  | 5333 | 5364 | 5389 | 5408 | 5408 | 5399  | 5374 | 5355  | 5339 | 5323  | 5328 | 5325  | 5330 | 5325  | 5326 | 5315  |  |  |  |
| 10                 | 4986 | 5114 | 5224 | 5304 | 5298 | 5267  | 5170 | 5081  | 5002 | 4922  | 4905 | 4861  | 4891 | 4879  | 4917 | 4914  |  |  |  |
| 15                 | 4091 | 4326 | 4506 | 4669 | 4638 | 4585  | 4393 | 4245  | 4074 | 3876  | 3811 | 3710  | 3756 | 3752  | 3865 | 3920  |  |  |  |
| 20                 | 2745 | 2996 | 3159 | 3336 | 3258 | 3212  | 2996 | 2857  | 2673 | 2447  | 2363 | 2231  | 2276 | 2289  | 2448 | 2547  |  |  |  |
| 25                 | 1447 | 1640 | 1719 | 1829 | 1729 | 1698  | 1541 | 1484  | 1356 | 1200  | 1139 | 1037  | 1064 | 1079  | 1207 | 1299  |  |  |  |
| 30                 | 616  | 698  | 733  | 772  | 711  | 687   | 619  | 585   | 541  | 486   | 453  | 401   | 407  | 416   | 479  | 542   |  |  |  |
| 35                 | 238  | 272  | 282  | 293  | 271  | 260   | 235  | 227   | 214  | 194   | 185  | 164   | 165  | 166   | 187  | 208   |  |  |  |
| 40                 | 102  | 115  | 119  | 127  | 117  | 115   | 105  | 102   | 97.0 | 88.4  | 83.6 | 74.5  | 75.1 | 75.9  | 83.5 | 91.3  |  |  |  |
| 45                 | 39.5 | 45.2 | 47.7 | 52.4 | 48.7 | 49.5  | 45.3 | 43.5  | 42.0 | 38.3  | 35.1 | 29.8  | 30.6 | 32.7  | 35.0 | 36.5  |  |  |  |
| 50                 | 9.38 | 12.0 | 12.8 | 15.4 | 13.9 | 15.0  | 12.9 | 13.5  | 16.9 | 17.6  | 15.7 | 9.38  | 16.1 | 17.1  | 15.9 | 11.5  |  |  |  |
| 55                 | 1.65 | 0.88 | 0.90 | 1.11 | 1.03 | 1.02  | 1.12 | 4.15  | 15.4 | 19.7  | 18.6 | 10.5  | 20.7 | 21.8  | 18.8 | 8.08  |  |  |  |
| 60                 | 1.95 | 0.72 | 0.75 | 0.81 | 0.78 | 0.73  | 1.09 | 5.21  | 20.6 | 25.6  | 23.8 | 14.7  | 26.5 | 27.3  | 24.1 | 9.81  |  |  |  |
| 65                 | 1.66 | 0.47 | 0.50 | 0.55 | 0.51 | 0.47  | 0.68 | 5.63  | 19.1 | 23.8  | 20.4 | 14.0  | 23.7 | 24.0  | 21.2 | 9.52  |  |  |  |
| 70                 | 1.08 | 0.49 | 0.52 | 0.60 | 0.53 | 0.51  | 0.56 | 4.00  | 12.7 | 15.4  | 13.5 | 8.31  | 14.2 | 14.0  | 13.1 | 6.23  |  |  |  |
| 75                 | 0.65 | 0.49 | 0.55 | 0.63 | 0.57 | 0.52  | 0.51 | 1.73  | 4.42 | 4.73  | 4.66 | 2.58  | 4.20 | 4.13  | 4.24 | 2.37  |  |  |  |
| 80                 | 0.60 | 0.54 | 0.50 | 0.56 | 0.51 | 0.55  | 0.55 | 0.65  | 1.00 | 1.19  | 1.15 | 1.22  | 1.34 | 1.28  | 1.02 | 0.73  |  |  |  |
| 85                 | 0.61 | 0.59 | 0.56 | 0.61 | 0.56 | 0.60  | 0.59 | 0.63  | 1.03 | 1.61  | 2.06 | 1.78  | 2.22 | 1.88  | 1.28 | 0.72  |  |  |  |
| 90                 | 0.63 | 0.64 | 0.60 | 0.61 | 0.61 | 0.65  | 0.62 | 0.60  | 1.36 | 2.17  | 2.44 | 1.87  | 2.35 | 2.16  | 1.91 | 0.96  |  |  |  |
| 95                 | 0.82 | 0.72 | 0.66 | 0.68 | 0.66 | 0.74  | 0.75 | 0.98  | 1.79 | 2.39  | 2.77 | 2.63  | 2.70 | 2.77  | 2.53 | 1.56  |  |  |  |
| 100                | 1.02 | 0.87 | 0.76 | 0.75 | 0.75 | 0.85  | 0.88 | 1.31  | 2.19 | 2.09  | 1.48 | 1.25  | 1.41 | 1.86  | 2.37 | 1.87  |  |  |  |
| 105                | 1.18 | 1.03 | 0.89 | 0.83 | 0.86 | 0.95  | 1.07 | 1.55  | 1.82 | 2.04  | 1.49 | 1.50  | 1.67 | 2.03  | 1.99 | 1.57  |  |  |  |
| 110                | 1.38 | 1.28 | 1.02 | 0.99 | 0.99 | 1.06  | 1.21 | 1.52  | 1.98 | 2.43  | 2.26 | 2.16  | 2.13 | 2.45  | 2.26 | 1.50  |  |  |  |
| 115                | 1.84 | 1.66 | 1.51 | 1.41 | 1.43 | 1.49  | 1.55 | 1.90  | 2.50 | 3.41  | 2.20 | 3.37  | 2.84 | 3.62  | 1.93 | 2.09  |  |  |  |
| 120                | 3.03 | 2.84 | 2.80 | 2.58 | 2.53 | 2.80  | 2.83 | 2.95  | 3.54 | 3.81  | 4.32 | 4.65  | 5.03 | 4.53  | 3.79 | 3.59  |  |  |  |
| 125                | 5.63 | 5.22 | 5.04 | 4.72 | 4.66 | 4.98  | 5.37 | 5.50  | 6.02 | 6.57  | 8.04 | 7.41  | 7.72 | 7.41  | 6.98 | 6.24  |  |  |  |
| 130                | 9.46 | 8.78 | 8.41 | 7.97 | 8.00 | 8.17  | 8.89 | 9.36  | 10.2 | 12.4  | 12.1 | 11.3  | 11.9 | 11.0  | 10.8 | 10.5  |  |  |  |
| 135                | 14.1 | 13.2 | 12.7 | 12.3 | 12.4 | 12.5  | 13.1 | 14.1  | 15.5 | 17.4  | 15.4 | 16.6  | 19.2 | 16.0  | 14.7 | 15.1  |  |  |  |
| 140                | 19.2 | 18.3 | 17.8 | 17.3 | 17.4 | 17.5  | 18.5 | 19.0  | 20.6 | 21.6  | 21.0 | 22.5  | 24.4 | 21.5  | 20.1 | 20.4  |  |  |  |
| 145                | 24.6 | 23.7 | 23.2 | 22.8 | 22.9 | 23.1  | 24.0 | 24.1  | 25.1 | 27.6  | 26.6 | 26.9  | 27.7 | 26.4  | 26.1 | 25.8  |  |  |  |
| 150                | 29.8 | 29.0 | 28.5 | 28.1 | 28.2 | 28.3  | 28.8 | 29.3  | 30.3 | 32.0  | 31.7 | 31.8  | 31.8 | 31.9  | 30.8 | 30.6  |  |  |  |
| 155                | 33.8 | 33.2 | 32.6 | 32.3 | 32.4 | 32.5  | 32.9 | 33.2  | 34.1 | 34.4  | 34.7 | 36.2  | 36.6 | 35.6  | 34.4 | 34.2  |  |  |  |
| 160                | 35.7 | 35.2 | 34.7 | 34.4 | 34.3 | 34.4  | 34.9 | 35.3  | 35.6 | 36.0  | 35.7 | 35.2  | 35.5 | 35.6  | 35.7 | 35.8  |  |  |  |
| 165                | 35.8 | 34.6 | 34.3 | 34.1 | 33.8 | 33.8  | 34.1 | 34.6  | 35.1 | 35.1  | 34.3 | 34.0  | 34.7 | 34.4  | 34.4 | 34.9  |  |  |  |
| 170                | 32.6 | 32.3 | 32.2 | 32.3 | 31.7 | 31.6  | 31.7 | 32.0  | 32.4 | 32.3  | 31.7 | 31.7  | 32.3 | 32.4  | 32.1 | 31.9  |  |  |  |
| 175                | 30.7 | 30.7 | 31.0 | 30.7 | 30.2 | 30.2  | 30.5 | 30.7  | 30.7 | 31.0  | 30.9 | 30.2  | 30.3 | 31.3  | 31.5 | 30.3  |  |  |  |
| 180                | 30.5 | 30.7 | 31.0 | 30.6 | 30.5 | 30.6  | 30.8 | 30.1  | 30.6 | 30.6  | 31.0 | 30.5  | 30.5 | 30.6  | 30.8 | 30.1  |  |  |  |

C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: MEDIUM  
Temperature:28DEG  
Operators:HTJ  
Test Date:2020-08-26

γ Range: 0 - 180DEG  
γ Interval: 0.5DEG  
Test System:EVERFINE G0-2000B\_V1 SYSTEM V2.0.401  
Humidity:65.0%  
Test Distance:5.190m [K=1.0000]  
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