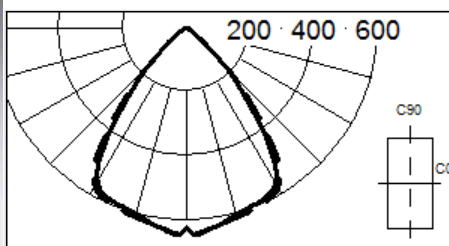




## ► Budynek Urzędu Miasta Stołecznego Warszawy



### R710/LEDW2425SX2

surface mounted luminaire - lens -  
rectangular - grey  
lacquered sheet steel housing  
design: EER design  
individual luminaire

### Mechanical characteristics

dimensions: (LxWxH) 1500 mm x 150 mm x 50 mm  
weight: 5.8 kg

### Optic

lens - LED+LENS  
Luminous area: 0.1176 m²

### Lamp

lamp type: LED HP  
colour temperature: 3000K / warm white

### Electrical equipment

S: driver fixed output  
voltage: 220-240V  
frequency: 50-60Hz  
power consumption: 26.2 W  
power factor >= 0.9  
photobiological safety: EN 62471: risk group 1  
unlimited

### Luminance

luminous flux luminaire: 2600 lm  
luminous efficacy luminaire: 99 lm/W

### Classifications

UTE: 1.00 B  
F1 = 826 F\*1 = 826  
F2 = 153 F\*2 = 153  
F3 = 16 F\*3 = 16  
F4 = 3 F\*4 = 3  
F5 = 0 F\*5 = 0  
CIE: 824 / 980 / 997 / 1000 / 1000  
CIE\_FLUXCODE: 0.82 / 0.98 / 1.00 / 1.00 / 1.00  
BZ: BZ1  
CAE: sym  
DIN: A60 (Nach Arbeitsblatt 7)  
DIN\_U: Phi u = 1.00  
DIN\_SU: Phi su = 0.75  
UTE: B

### Luminous intensities in cd/klm

| gamma | C 0 | C 45 | C 90 |
|-------|-----|------|------|
| 0°    | 618 | 618  | 618  |
| 5°    | 634 | 634  | 637  |
| 10°   | 616 | 619  | 622  |
| 15°   | 601 | 606  | 611  |
| 20°   | 591 | 595  | 604  |
| 25°   | 584 | 589  | 596  |
| 30°   | 559 | 575  | 575  |
| 35°   | 462 | 485  | 498  |
| 40°   | 310 | 321  | 338  |
| 45°   | 185 | 184  | 198  |
| 50°   | 83  | 82   | 96   |
| 55°   | 40  | 37   | 43   |
| 60°   | 20  | 20   | 22   |
| 65°   | 12  | 12   | 13   |
| 70°   | 8   | 8    | 8    |
| 75°   | 5   | 5    | 5    |
| 80°   | 3   | 3    | 3    |
| 85°   | 1   | 1    | 1    |
| 90°   | 0   | 0    | 0    |

### Average luminances in cd/m²/2600lm

| gamma | C 0  | C 30 | C 45 | C 60 | C 90 |
|-------|------|------|------|------|------|
| 45°   | 5783 | 6128 | 5755 | 6196 | 6202 |
| 50°   | 2844 | 3020 | 2827 | 3106 | 3309 |
| 55°   | 1529 | 1507 | 1444 | 1581 | 1666 |
| 60°   | 892  | 932  | 881  | 953  | 954  |
| 65°   | 629  | 659  | 615  | 658  | 683  |
| 70°   | 499  | 516  | 492  | 517  | 539  |
| 75°   | 422  | 437  | 418  | 452  | 454  |

### Utilisation factors according to IES in %

| Rho Ceiling | 80% | 80% | 80% | 50% | 50% | 50% | 30% | 30% | 30% | 0% |
|-------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|
| Rho Walls   | 50% | 30% | 10% | 50% | 30% | 10% | 50% | 30% | 10% | 0% |
| Rho Floor   | 20% | 20% | 20% | 20% | 20% | 20% | 20% | 20% | 20% | 0% |
| R.C.R. = 1  | 109 | 107 | 106 | 103 | 101 | 100 | 99  | 98  | 97  | 91 |
| 2           | 100 | 96  | 94  | 94  | 92  | 90  | 91  | 89  | 87  | 83 |
| 3           | 91  | 87  | 83  | 87  | 83  | 80  | 84  | 81  | 79  | 75 |
| 4           | 84  | 78  | 74  | 80  | 76  | 72  | 78  | 74  | 71  | 68 |
| 5           | 77  | 71  | 67  | 74  | 69  | 65  | 72  | 68  | 65  | 62 |
| 6           | 71  | 65  | 60  | 68  | 63  | 59  | 67  | 62  | 59  | 56 |
| 7           | 66  | 59  | 55  | 64  | 58  | 54  | 62  | 57  | 54  | 51 |
| 8           | 61  | 54  | 50  | 59  | 53  | 49  | 58  | 53  | 49  | 47 |
| 9           | 57  | 50  | 46  | 55  | 49  | 45  | 54  | 49  | 45  | 43 |
| 10          | 53  | 46  | 42  | 51  | 46  | 42  | 51  | 45  | 42  | 40 |

### Corrected glare indices referring to a total lamp flux of 2600lm

| Rho Ceiling | 70%                              | 70%  | 50%  | 50%  | 30%  | 70%  | 70%  | 50%  | 50%  | 30%  |      |
|-------------|----------------------------------|--|------|------|------|------|--|------|------|------|------|
| Rho Walls   | 50%                              | 30%  | 50%  | 30%  | 30%  | 50%  | 30%  | 50%  | 30%  | 30%  |      |
| Rho Floor   | 20%                              | 20%  | 20%  | 20%  | 20%  | 20%  | 20%  | 20%  | 20%  | 20%  |      |
| Dimensions  | X   Y                            | Viewing direction at right angles to lamp axis |      |      |      |      | Viewing direction parallel angles to lamp axis |      |      |      |      |
| 2H 2H       | 15.1   15.8   15.4   16.0   16.2 | 15.1   | 15.8 | 15.4 | 16.0 | 16.2 | 15.1   | 15.8 | 15.4 | 16.0 | 16.2 |
| 3H          | 15.1   15.6   15.3   15.8   16.1 | 15.1   | 15.6 | 15.3 | 15.8 | 16.1 | 15.1   | 15.6 | 15.4 | 15.9 | 16.1 |
| 4H          | 15.0   15.5   15.3   15.8   16.0 | 15.0   | 15.5 | 15.3 | 15.8 | 16.0 | 15.1   | 15.5 | 15.4 | 15.8 | 16.0 |
| 6H          | 15.0   15.4   15.3   15.7   16.0 | 15.0   | 15.4 | 15.3 | 15.7 | 16.0 | 15.0   | 15.4 | 15.4 | 15.7 | 16.0 |
| 8H          | 15.0   15.4   15.3   15.6   15.9 | 15.0   | 15.4 | 15.3 | 15.6 | 15.9 | 15.0   | 15.4 | 15.3 | 15.7 | 16.0 |
| 12H         | 15.0   15.3   15.3   15.6   15.9 | 15.0   | 15.3 | 15.3 | 15.6 | 15.9 | 15.0   | 15.3 | 15.3 | 15.6 | 15.9 |
| 4H 2H       | 15.0   15.5   15.3   15.7   16.0 | 15.0   | 15.5 | 15.3 | 15.7 | 16.0 | 15.0   | 15.5 | 15.3 | 15.8 | 16.0 |
| 3H          | 15.0   15.3   15.3   15.6   15.9 | 15.0   | 15.3 | 15.3 | 15.6 | 15.9 | 15.0   | 15.3 | 15.4 | 15.6 | 15.9 |
| 4H          | 15.0   15.2   15.4   15.5   15.9 | 15.0   | 15.2 | 15.4 | 15.5 | 15.9 | 15.0   | 15.2 | 15.4 | 15.5 | 15.9 |
| 6H          | 15.0   15.1   15.4   15.5   15.8 | 15.0   | 15.1 | 15.4 | 15.5 | 15.8 | 15.0   | 15.1 | 15.4 | 15.5 | 15.9 |
| 8H          | 15.0   15.0   15.4   15.4   15.8 | 15.0   | 15.0 | 15.4 | 15.4 | 15.8 | 15.0   | 15.1 | 15.4 | 15.4 | 15.8 |
| 12H         | 15.0   15.0   15.4   15.4   15.8 | 15.0   | 15.0 | 15.4 | 15.4 | 15.8 | 15.0   | 15.0 | 15.4 | 15.4 | 15.8 |
| 8H 4H       | 14.9   15.0   15.3   15.4   15.8 | 15.0   | 15.0 | 15.3 | 15.4 | 15.8 | 15.0   | 15.0 | 15.4 | 15.4 | 15.8 |
| 6H          | 14.9   14.9   15.4   15.3   15.8 | 15.0   | 14.9 | 15.4 | 15.3 | 15.8 | 15.0   | 14.9 | 15.4 | 15.3 | 15.8 |
| 8H          | 14.9   14.8   15.4   15.3   15.8 | 14.9   | 14.9 | 15.4 | 15.3 | 15.8 | 14.9   | 14.9 | 15.4 | 15.3 | 15.8 |
| 12H         | 14.9   14.8   15.4   15.2   15.8 | 14.9   | 14.8 | 15.4 | 15.2 | 15.8 | 14.9   | 14.8 | 15.4 | 15.3 | 15.8 |
| 12H 4H      | 14.9   14.9   15.3   15.3   15.8 | 14.9   | 14.9 | 15.3 | 15.3 | 15.8 | 14.9   | 15.0 | 15.3 | 15.4 | 15.8 |
| 6H          | 14.9   14.8   15.4   15.3   15.7 | 14.9   | 14.8 | 15.4 | 15.3 | 15.7 | 14.9   | 14.8 | 15.4 | 15.3 | 15.8 |
| 8H          | 14.9   14.8   15.4   15.2   15.8 | 14.9   | 14.8 | 15.4 | 15.2 | 15.8 | 14.9   | 14.8 | 15.4 | 15.2 | 15.8 |
| S = 1.0H    |                                  | +2.5 / -5.6                                    |      |      |      |      | +2.5 / -5.7                                    |      |      |      |      |
| 1.5H        |                                  | +4.7 / -7.5                                    |      |      |      |      | +4.8 / -7.5                                    |      |      |      |      |
| 2.0H        |                                  | +6.7 / -8.4                                    |      |      |      |      | +6.7 / -8.4                                    |      |      |      |      |

### Average luminances in cd/m²/1000lm

| gamma | C 0  | C 30 | C 45 | C 60 | C 90 |
|-------|------|------|------|------|------|
| 45°   | 2224 | 2357 | 2214 | 2383 | 2386 |
| 50°   | 1094 | 1161 | 1087 | 1195 | 1273 |
| 55°   | 588  | 580  | 555  | 608  | 641  |
| 60°   | 343  | 358  | 339  | 367  | 367  |
| 65°   | 242  | 254  | 237  | 253  | 263  |
| 70°   | 192  | 198  | 189  | 199  | 207  |
| 75°   | 162  | 168  | 161  | 174  | 175  |

### Utilisation factors according to LITG in %

| Rho Ceiling | 80% | 80% | 80% | 80% | 50% | 50% | 50% | 50% | 30% | 0% |
|-------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|
| Rho Walls   | 50% | 30% | 50% | 30% | 50% | 30% | 50% | 30% | 30% | 0% |
| Rho Floor   | 30% | 30% | 10% | 10% | 30% | 30% | 10% | 10% | 10% | 0% |
| k=0.60      | 65  | 58  | 62  | 56  | 63  | 57  | 61  | 56  | 55  | 50 |
| 0.80        | 77  | 69  | 72  | 67  | 74  | 68  | 71  | 66  | 65  | 61 |
| 1.00        | 85  | 77  | 79  | 73  | 81  | 75  | 77  | 72  | 72  | 67 |
| 1.25        | 94  | 87  | 86  | 82  | 89  | 84  | 84  | 81  | 80  | 76 |
| 1.50        | 99  | 93  | 90  | 86  | 94  | 89  | 88  | 85  | 84  | 80 |
| 2.00        | 106 | 100 | 95  | 91  | 99  | 95  | 92  | 89  | 88  | 84 |
| 2.50        | 111 | 106 | 98  | 95  | 103 | 99  | 95  | 93  | 92  | 88 |
| 3.00        | 115 | 110 | 100 | 98  | 106 | 103 | 98  | 96  | 95  | 91 |
| 4.00        | 118 | 114 | 102 | 100 | 108 | 105 | 99  | 97  | 96  | 92 |
| 5.00        | 120 | 117 | 103 | 102 | 110 | 108 | 100 | 99  | 98  | 94 |

