

Cooper Lighting Solutions Photometric Lab  
1121 Highway 74 South  
Peachtree City, GA 30269



Scaled data based on original data using  
LM-79-2024 Approved Method: Electrical and Photometric Measurements of Solid-  
State Lighting Products

Test Report Prepared for  
Cooper Lighting Solutions

Brand: NEO-RAY

Report Number: P735883

Luminaire Tested: S122DRP-S675D850-X4F0-XX-UDD-W-W

Issue Date: 1/24/2024

**Test Information**

Test Method: LM-79-2024  
Report Number: P735883  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2308-143-1)  
Test Lab: INNOVATION CENTER  
Issue Date: 1/24/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S122DRP-S675D850-X4F0-XX-UDD-W-W  
Description: DEFINE 2 DIRECT RECESSED WITH WALL WASH OPTIC  
Light Source: 5000K CCT, 80 CRI LEDS  
Ballast/Driver: -

**Summary**

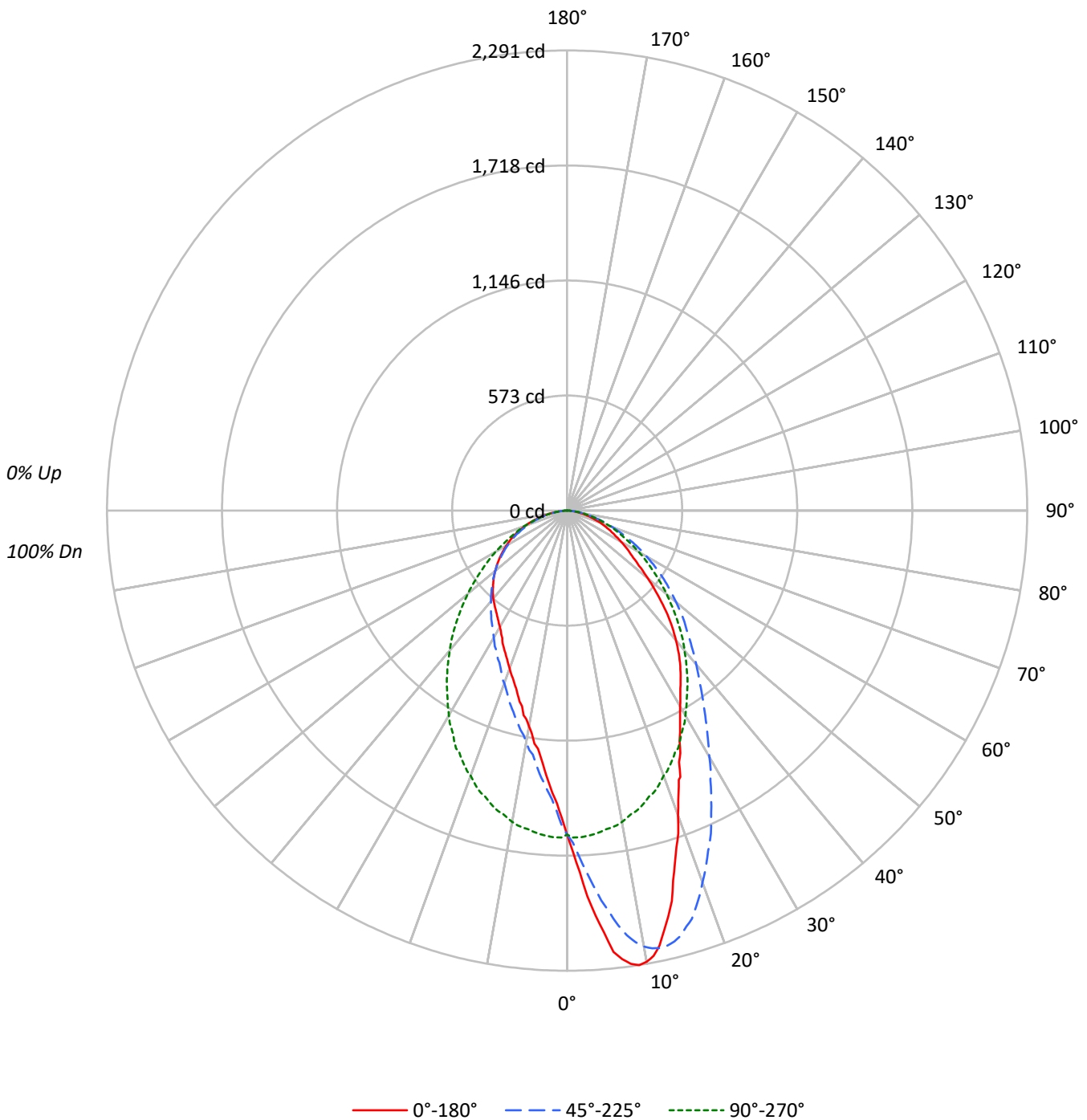
Lumens per Lamp: N/A  
Luminaire Lumens: 3283.1 lumens  
Efficiency: N/A  
Efficacy: 126.3 lumens/watt  
Spacing Criteria (0/90/45): 0.9 / 1.11 / 1.12  
Luminous Opening: Rectangular (W 4' x L: 0.14' x H: 0')  
CIE Type: Direct

Input Watts (W): 26  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 24 FT

TEST NUMBER: P735883

CATALOG NUMBER: S122DRP-S675D850-X4F0-XX-UDD-W-W

### Luminous Intensity Polar Plot





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**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |    |    |    |    |     |   |  |   |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|----|----|----|-----|---|--|---|
| RF  | 20  |     |     |     |     | 20  |     |     |     |     | 20  |     |     |     |     | 20  |     |     |    |    | 20 |    |     |   |  |   |
| RC  | 80  |     |     |     |     | 70  |     |     |     |     | 50  |     |     |     |     | 30  |     |     |    |    | 10 |    |     |   |  | 0 |
| RW  | 70  | 50  | 30  | 10  | 70  | 50  | 30  | 10  | 50  | 30  | 10  | 50  | 30  | 10  | 50  | 30  | 10  | 50  | 30 | 10 | 50 | 30 | 10  | 0 |  |   |
| RCR |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |    |    |    |    |     |   |  |   |
| 0   | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 | 111 | 111 | 111 | 106 | 106 | 106 | 102 | 102 | 102 | 100 |    |    |    |    | 100 |   |  |   |
| 1   | 110 | 106 | 102 | 98  | 107 | 103 | 100 | 97  | 99  | 96  | 94  | 95  | 93  | 91  | 92  | 90  | 88  |     |    |    |    | 86 |     |   |  |   |
| 2   | 101 | 94  | 87  | 82  | 98  | 92  | 86  | 81  | 88  | 83  | 79  | 85  | 81  | 78  | 82  | 79  | 76  |     |    |    |    | 74 |     |   |  |   |
| 3   | 93  | 83  | 76  | 70  | 91  | 82  | 75  | 69  | 79  | 73  | 68  | 76  | 71  | 67  | 74  | 69  | 66  |     |    |    |    | 64 |     |   |  |   |
| 4   | 86  | 75  | 67  | 60  | 83  | 73  | 66  | 60  | 71  | 64  | 59  | 69  | 63  | 58  | 67  | 62  | 58  |     |    |    |    | 56 |     |   |  |   |
| 5   | 79  | 67  | 59  | 53  | 77  | 66  | 58  | 53  | 64  | 57  | 52  | 62  | 56  | 52  | 61  | 55  | 51  |     |    |    |    | 49 |     |   |  |   |
| 6   | 74  | 61  | 53  | 47  | 72  | 60  | 52  | 47  | 59  | 52  | 46  | 57  | 51  | 46  | 55  | 50  | 46  |     |    |    |    | 44 |     |   |  |   |
| 7   | 69  | 56  | 48  | 42  | 67  | 55  | 47  | 42  | 54  | 47  | 42  | 52  | 46  | 41  | 51  | 45  | 41  |     |    |    |    | 39 |     |   |  |   |
| 8   | 64  | 51  | 43  | 38  | 63  | 51  | 43  | 38  | 50  | 43  | 38  | 48  | 42  | 37  | 47  | 41  | 37  |     |    |    |    | 35 |     |   |  |   |
| 9   | 60  | 48  | 40  | 35  | 59  | 47  | 40  | 34  | 46  | 39  | 34  | 45  | 39  | 34  | 44  | 38  | 34  |     |    |    |    | 32 |     |   |  |   |
| 10  | 57  | 44  | 37  | 32  | 55  | 44  | 36  | 32  | 43  | 36  | 31  | 42  | 36  | 31  | 41  | 35  | 31  |     |    |    |    | 30 |     |   |  |   |

**AVERAGE LUMINANCE (cd/sqm):**

|     | 0°    | 45°   | 90°   | 135°  | 180°  |
|-----|-------|-------|-------|-------|-------|
| 0°  | 31015 | 31015 | 31015 | 31015 | 31015 |
| 5°  | 40677 | 37596 | 31176 | 26148 | 24950 |
| 10° | 44524 | 43031 | 30715 | 22857 | 21300 |
| 15° | 40053 | 43586 | 29881 | 20634 | 18890 |
| 20° | 33051 | 40310 | 28741 | 18714 | 17127 |
| 25° | 28247 | 35963 | 27730 | 17310 | 15877 |
| 30° | 24982 | 31408 | 26141 | 16220 | 14866 |
| 35° | 23108 | 27818 | 24514 | 15456 | 14443 |
| 40° | 21147 | 25099 | 22818 | 14804 | 14357 |
| 45° | 18631 | 22910 | 21102 | 14350 | 14168 |
| 50° | 15687 | 21123 | 19332 | 13962 | 13995 |
| 55° | 13193 | 19437 | 17466 | 13492 | 13750 |
| 60° | 11894 | 17564 | 15858 | 13090 | 13470 |
| 65° | 10793 | 15436 | 14122 | 12457 | 13217 |
| 70° | 9722  | 13336 | 12712 | 11532 | 12527 |
| 75° | 8481  | 11281 | 10872 | 10457 | 11452 |
| 80° | 7117  | 8833  | 8833  | 9088  | 9575  |
| 85° | 5381  | 6352  | 6594  | 7101  | 6859  |

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 67.5°  
 Vertical Angle: 45°  
 Luminance: 33642 cd/sqm



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 158.8  | 4.8       |
| 10°-20°   | 435.8  | 13.3      |
| 20°-30°   | 571.5  | 17.4      |
| 30°-40°   | 604.1  | 18.4      |
| 40°-50°   | 560.9  | 17.1      |
| 50°-60°   | 448.9  | 13.7      |
| 60°-70°   | 307.0  | 9.4       |
| 70°-80°   | 158.4  | 4.8       |
| 80°-90°   | 37.6   | 1.1       |
| 90°-100°  | 0.0    | 0.0       |
| 100°-110° | 0.0    | 0.0       |
| 110°-120° | 0.0    | 0.0       |
| 120°-130° | 0.0    | 0.0       |
| 130°-140° | 0.0    | 0.0       |
| 140°-150° | 0.0    | 0.0       |
| 150°-160° | 0.0    | 0.0       |
| 160°-170° | 0.0    | 0.0       |
| 170°-180° | 0.0    | 0.0       |
| 0°-30°    | 1166.2 | 35.5      |
| 0°-40°    | 1770.3 | 53.9      |
| 0°-60°    | 2780.0 | 84.7      |
| 0°-90°    | 3283.1 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 3283.1 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 45°  | 90°  | 135° | 180° | Flux |
|-----|------|------|------|------|------|------|
| 0°  | 1614 | 1614 | 1614 | 1614 | 1614 |      |
| 5°  | 2108 | 1948 | 1616 | 1355 | 1293 | 208  |
| 15° | 2013 | 2190 | 1502 | 1037 | 949  | 552  |
| 25° | 1332 | 1696 | 1308 | 816  | 749  | 614  |
| 35° | 985  | 1186 | 1045 | 659  | 616  | 615  |
| 45° | 685  | 843  | 776  | 528  | 521  | 526  |
| 55° | 394  | 580  | 521  | 403  | 410  | 361  |
| 65° | 237  | 339  | 310  | 274  | 291  | 235  |
| 75° | 114  | 152  | 146  | 141  | 154  | 122  |
| 85° | 24   | 29   | 30   | 32   | 31   | 30   |
| 90° | 0    | 0    | 0    | 0    | 0    |      |



TEST NUMBER: P735883

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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 22.5°  | 45°    | 67.5°  | 90°    | 112.5° | 135°   | 157.5° | 180°   |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0°    | 1613.6 | 1613.6 | 1613.6 | 1613.6 | 1613.6 | 1613.6 | 1613.6 | 1613.6 | 1613.6 |
| 1°    | 1702.3 | 1693.4 | 1654.6 | 1656.8 | 1628.0 | 1595.8 | 1565.9 | 1547.1 | 1531.5 |
| 2°    | 1802.1 | 1784.4 | 1723.4 | 1693.4 | 1628.0 | 1559.3 | 1497.1 | 1480.5 | 1459.4 |
| 3°    | 1923.0 | 1880.9 | 1796.6 | 1725.6 | 1625.8 | 1526.0 | 1440.6 | 1410.6 | 1407.3 |
| 4°    | 2020.6 | 1982.9 | 1870.9 | 1758.9 | 1620.2 | 1493.8 | 1397.3 | 1365.2 | 1349.7 |
| 5°    | 2108.2 | 2083.8 | 1948.5 | 1801.0 | 1615.8 | 1462.8 | 1355.2 | 1310.8 | 1293.1 |
| 6°    | 2209.1 | 2159.2 | 2010.6 | 1843.2 | 1608.0 | 1432.8 | 1317.5 | 1264.3 | 1239.9 |
| 7°    | 2250.2 | 2219.1 | 2080.5 | 1870.9 | 1598.1 | 1398.4 | 1269.8 | 1212.1 | 1194.4 |
| 8°    | 2279.0 | 2266.8 | 2135.9 | 1916.4 | 1593.6 | 1366.3 | 1227.7 | 1192.2 | 1171.1 |
| 9°    | 2291.2 | 2281.2 | 2175.9 | 1935.2 | 1585.9 | 1349.7 | 1206.6 | 1147.8 | 1124.5 |
| 10°   | 2281.2 | 2285.6 | 2204.7 | 1964.0 | 1573.7 | 1315.3 | 1171.1 | 1120.1 | 1091.3 |
| 11°   | 2257.9 | 2269.0 | 2220.2 | 1997.3 | 1558.1 | 1287.5 | 1138.9 | 1086.8 | 1059.1 |
| 12°   | 2213.6 | 2238.0 | 2226.9 | 2020.6 | 1543.7 | 1263.1 | 1116.8 | 1066.9 | 1042.5 |
| 13°   | 2144.8 | 2199.1 | 2222.4 | 2030.6 | 1534.9 | 1235.4 | 1089.0 | 1031.4 | 1000.3 |
| 14°   | 2082.7 | 2139.3 | 2210.2 | 2052.8 | 1519.3 | 1204.4 | 1063.5 | 1005.9 | 979.2  |
| 15°   | 2012.8 | 2078.3 | 2190.3 | 2059.4 | 1501.6 | 1178.9 | 1036.9 | 973.7  | 949.3  |
| 16°   | 1915.2 | 2002.9 | 2153.7 | 2067.2 | 1480.5 | 1150.0 | 1012.5 | 952.6  | 920.5  |
| 17°   | 1834.3 | 1928.5 | 2126.0 | 2071.6 | 1469.4 | 1127.9 | 991.4  | 920.5  | 899.4  |
| 18°   | 1760.0 | 1866.4 | 2076.0 | 2068.3 | 1451.7 | 1102.3 | 960.4  | 897.2  | 877.2  |
| 19°   | 1701.2 | 1787.7 | 2026.1 | 2060.5 | 1427.3 | 1077.9 | 937.1  | 880.5  | 857.3  |
| 20°   | 1615.8 | 1715.6 | 1970.7 | 2057.2 | 1405.1 | 1055.8 | 914.9  | 857.3  | 837.3  |
| 21°   | 1544.8 | 1646.9 | 1919.7 | 2046.1 | 1389.6 | 1034.7 | 898.3  | 835.1  | 817.3  |
| 22.5° | 1451.7 | 1541.5 | 1834.3 | 2025.0 | 1355.2 | 999.2  | 861.7  | 814.0  | 789.6  |
| 23°   | 1440.6 | 1517.1 | 1812.1 | 2018.4 | 1345.2 | 991.4  | 849.5  | 801.8  | 781.8  |
| 24°   | 1370.7 | 1451.7 | 1760.0 | 1997.3 | 1319.7 | 967.0  | 829.5  | 787.4  | 764.1  |
| 25°   | 1331.9 | 1398.4 | 1695.7 | 1977.3 | 1307.5 | 944.9  | 816.2  | 768.5  | 748.6  |
| 26°   | 1277.6 | 1354.1 | 1638.0 | 1948.5 | 1280.9 | 924.9  | 795.2  | 751.9  | 733.0  |
| 27°   | 1237.6 | 1302.0 | 1578.1 | 1927.4 | 1249.8 | 903.8  | 778.5  | 735.3  | 712.0  |
| 28°   | 1198.8 | 1260.9 | 1520.4 | 1893.1 | 1227.7 | 880.5  | 766.3  | 720.8  | 698.7  |
| 29°   | 1158.9 | 1213.2 | 1473.9 | 1866.4 | 1206.6 | 860.6  | 747.5  | 702.0  | 680.9  |
| 30°   | 1125.6 | 1175.5 | 1415.1 | 1831.0 | 1177.8 | 837.3  | 730.8  | 688.7  | 669.8  |
| 32.5° | 1049.1 | 1091.3 | 1295.3 | 1746.7 | 1109.0 | 790.7  | 690.9  | 652.1  | 641.0  |
| 35°   | 984.8  | 1012.5 | 1185.5 | 1652.4 | 1044.7 | 740.8  | 658.7  | 621.0  | 615.5  |
| 37.5° | 917.1  | 943.8  | 1085.7 | 1553.7 | 977.0  | 695.3  | 622.1  | 597.8  | 593.3  |
| 40°   | 842.8  | 878.3  | 1000.3 | 1456.1 | 909.4  | 651.0  | 590.0  | 571.1  | 572.2  |
| 42.5° | 768.5  | 809.6  | 917.1  | 1341.9 | 846.2  | 608.8  | 558.9  | 545.6  | 547.8  |
| 45°   | 685.4  | 737.5  | 842.8  | 1237.6 | 776.3  | 568.9  | 527.9  | 521.2  | 521.2  |
| 47.5° | 598.9  | 665.4  | 778.5  | 1130.1 | 709.8  | 529.0  | 497.9  | 493.5  | 495.7  |
| 50°   | 524.6  | 584.4  | 706.4  | 1025.8 | 646.5  | 492.4  | 466.9  | 465.8  | 468.0  |
| 52.5° | 451.4  | 511.2  | 643.2  | 928.2  | 582.2  | 459.1  | 436.9  | 436.9  | 439.2  |
| 55°   | 393.7  | 440.3  | 580.0  | 826.2  | 521.2  | 420.3  | 402.6  | 405.9  | 410.3  |
| 57.5° | 353.8  | 384.8  | 517.9  | 728.6  | 464.7  | 382.6  | 371.5  | 373.7  | 379.3  |
| 60°   | 309.4  | 333.8  | 456.9  | 638.8  | 412.5  | 346.0  | 340.5  | 344.9  | 350.4  |
| 62.5° | 269.5  | 290.6  | 399.2  | 557.8  | 356.0  | 310.5  | 308.3  | 315.0  | 320.5  |
| 65°   | 237.3  | 251.7  | 339.4  | 475.8  | 310.5  | 275.0  | 273.9  | 283.9  | 290.6  |

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CATALOG NUMBER: S122DRP-S675D850-X4F0-XX-UDD-W-W

**CANDELA DISTRIBUTION (continued):**

|       | 0°    | 22.5° | 45°   | 67.5° | 90°   | 112.5° | 135°  | 157.5° | 180°  |
|-------|-------|-------|-------|-------|-------|--------|-------|--------|-------|
| 67.5° | 204.1 | 215.1 | 287.2 | 398.1 | 265.1 | 239.5  | 239.5 | 250.6  | 256.2 |
| 70°   | 173.0 | 181.9 | 237.3 | 328.3 | 226.2 | 204.1  | 205.2 | 218.5  | 222.9 |
| 72.5° | 140.8 | 148.6 | 193.0 | 263.9 | 183.0 | 170.8  | 174.1 | 185.2  | 189.6 |
| 75°   | 114.2 | 119.8 | 151.9 | 208.5 | 146.4 | 136.4  | 140.8 | 150.8  | 154.2 |
| 77.5° | 87.6  | 92.0  | 112.0 | 153.0 | 112.0 | 106.5  | 110.9 | 119.8  | 119.8 |
| 80°   | 64.3  | 65.4  | 79.8  | 107.6 | 79.8  | 76.5   | 82.1  | 86.5   | 86.5  |
| 82.5° | 42.1  | 44.4  | 52.1  | 68.8  | 53.2  | 52.1   | 54.3  | 57.7   | 57.7  |
| 85°   | 24.4  | 25.5  | 28.8  | 37.7  | 29.9  | 29.9   | 32.2  | 32.2   | 31.1  |
| 87.5° | 10.0  | 11.1  | 12.2  | 14.4  | 13.3  | 14.4   | 14.4  | 12.2   | 13.3  |
| 90°   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0    | 0.0   | 0.0    | 0.0   |



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**CIE UGR TABLE:**

| Reflectances:   |      |                  |       |       |       |       |                |       |       |       |       |
|-----------------|------|------------------|-------|-------|-------|-------|----------------|-------|-------|-------|-------|
| Ceiling         |      | 0.7              | 0.7   | 0.5   | 0.5   | 0.3   | 0.7            | 0.7   | 0.5   | 0.5   | 0.3   |
| Wall            |      | 0.5              | 0.3   | 0.5   | 0.3   | 0.3   | 0.5            | 0.3   | 0.5   | 0.3   | 0.3   |
| Reference plane |      | 0.2              | 0.2   | 0.2   | 0.2   | 0.2   | 0.2            | 0.2   | 0.2   | 0.2   | 0.2   |
| Room dimensions |      | Viewed crosswise |       |       |       |       | Viewed endwise |       |       |       |       |
| X=2H            | Y=2H | 21.15            | 22.67 | 21.52 | 22.99 | 23.30 | 20.73          | 22.25 | 21.09 | 22.56 | 22.88 |
|                 | 3H   | 22.35            | 23.72 | 22.73 | 24.05 | 24.41 | 22.24          | 23.61 | 22.62 | 23.93 | 24.30 |
|                 | 4H   | 22.75            | 24.03 | 23.15 | 24.38 | 24.76 | 22.77          | 24.05 | 23.17 | 24.40 | 24.78 |
|                 | 6H   | 23.00            | 24.19 | 23.41 | 24.55 | 24.95 | 23.12          | 24.30 | 23.53 | 24.67 | 25.06 |
|                 | 8H   | 23.07            | 24.19 | 23.49 | 24.58 | 24.98 | 23.22          | 24.34 | 23.64 | 24.73 | 25.13 |
|                 | 12H  | 23.10            | 24.18 | 23.53 | 24.56 | 24.99 | 23.27          | 24.35 | 23.70 | 24.73 | 25.16 |
| 4H              | 2H   | 22.21            | 23.49 | 22.61 | 23.84 | 24.22 | 21.80          | 23.08 | 22.20 | 23.43 | 23.81 |
|                 | 3H   | 23.57            | 24.64 | 23.98 | 25.04 | 25.44 | 23.42          | 24.49 | 23.83 | 24.89 | 25.29 |
|                 | 4H   | 24.03            | 24.99 | 24.46 | 25.41 | 25.84 | 24.00          | 24.96 | 24.44 | 25.38 | 25.82 |
|                 | 6H   | 24.34            | 25.18 | 24.80 | 25.62 | 26.08 | 24.43          | 25.26 | 24.88 | 25.70 | 26.16 |
|                 | 8H   | 24.42            | 25.20 | 24.89 | 25.65 | 26.11 | 24.54          | 25.32 | 25.01 | 25.77 | 26.23 |
|                 | 12H  | 24.47            | 25.17 | 24.95 | 25.64 | 26.12 | 24.62          | 25.31 | 25.10 | 25.79 | 26.26 |
| 8H              | 4H   | 24.39            | 25.17 | 24.85 | 25.61 | 26.08 | 24.35          | 25.13 | 24.81 | 25.57 | 26.04 |
|                 | 6H   | 24.79            | 25.43 | 25.29 | 25.92 | 26.40 | 24.87          | 25.51 | 25.36 | 26.00 | 26.48 |
|                 | 8H   | 24.91            | 25.49 | 25.42 | 26.00 | 26.49 | 25.03          | 25.61 | 25.55 | 26.12 | 26.61 |
|                 | 12H  | 25.00            | 25.51 | 25.51 | 26.00 | 26.56 | 25.16          | 25.66 | 25.67 | 26.16 | 26.72 |
| 12H             | 4H   | 24.41            | 25.11 | 24.89 | 25.58 | 26.06 | 24.36          | 25.06 | 24.85 | 25.54 | 26.01 |
|                 | 6H   | 24.83            | 25.41 | 25.35 | 25.92 | 26.41 | 24.91          | 25.48 | 25.42 | 25.99 | 26.48 |
|                 | 8H   | 25.00            | 25.51 | 25.51 | 26.01 | 26.57 | 25.12          | 25.63 | 25.63 | 26.13 | 26.69 |