

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: P243604

Luminaire Tested: S124RDRP-H1020D835-X4F0-XX-UDD-A-W

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-2024  
Report Number: P243604  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-70)  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S124RDRP-H1020D835-X4F0-XX-UDD-A-W  
Description: DEFINE 4 REGRESSED DIRECT RECESSED WITH ASYMMETRIC FLUSH DIFFUSER.  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: (184) 3500K CCT, 80 CRI LEDS  
Ballast/Driver: -

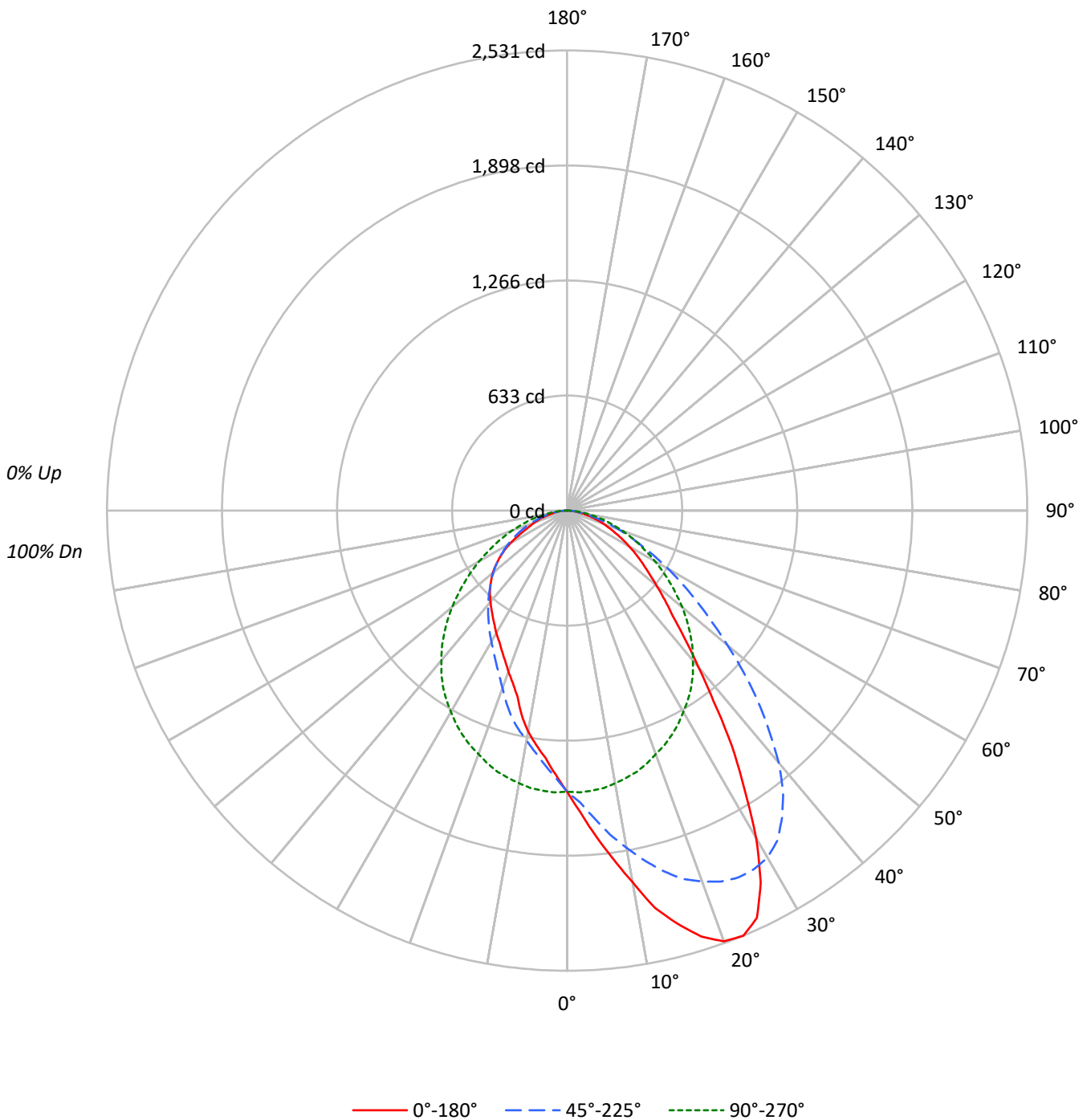
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3990.2 lumens  
Efficiency: N/A  
Efficacy: 126.7 lumens/watt  
Spacing Criteria (0/90/45): 1.27 / 1.23 / 1.39  
Luminous Opening: Rectangular (W 3.88' x L: 0.31' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 31.5  
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: P243604

CATALOG NUMBER: S124RDRP-H1020D835-X4F0-XX-UDD-A-W

### Luminous Intensity Polar Plot



TEST NUMBER: P243604

CATALOG NUMBER: S124RDRP-H1020D835-X4F0-XX-UDD-A-W

**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 | 105 | 102 | 98  | 107 | 103 | 100 | 97  | 99  | 96  | 93  | 95  | 93  | 91  | 92  | 90  | 88  |     |    |    |    | 86 |     |   |  |   |
| 2   | 101 | 93  | 87  | 82  | 98  | 91  | 86  | 81  | 88  | 83  | 79  | 85  | 81  | 77  | 82  | 78  | 75  |     |    |    |    | 73 |     |   |  |   |
| 3   | 92  | 83  | 75  | 69  | 90  | 81  | 74  | 68  | 78  | 72  | 67  | 76  | 70  | 66  | 73  | 69  | 65  |     |    |    |    | 63 |     |   |  |   |
| 4   | 85  | 74  | 66  | 59  | 83  | 73  | 65  | 59  | 70  | 63  | 58  | 68  | 62  | 57  | 66  | 61  | 57  |     |    |    |    | 55 |     |   |  |   |
| 5   | 79  | 66  | 58  | 52  | 77  | 65  | 57  | 51  | 63  | 56  | 51  | 61  | 55  | 50  | 60  | 54  | 50  |     |    |    |    | 48 |     |   |  |   |
| 6   | 73  | 60  | 52  | 46  | 71  | 59  | 51  | 45  | 58  | 50  | 45  | 56  | 50  | 45  | 54  | 49  | 44  |     |    |    |    | 42 |     |   |  |   |
| 7   | 68  | 55  | 46  | 41  | 66  | 54  | 46  | 40  | 53  | 45  | 40  | 51  | 45  | 40  | 50  | 44  | 40  |     |    |    |    | 38 |     |   |  |   |
| 8   | 63  | 50  | 42  | 36  | 62  | 50  | 42  | 36  | 48  | 41  | 36  | 47  | 41  | 36  | 46  | 40  | 36  |     |    |    |    | 34 |     |   |  |   |
| 9   | 59  | 46  | 38  | 33  | 58  | 46  | 38  | 33  | 45  | 38  | 33  | 43  | 37  | 33  | 42  | 37  | 32  |     |    |    |    | 31 |     |   |  |   |
| 10  | 56  | 43  | 35  | 30  | 54  | 42  | 35  | 30  | 41  | 35  | 30  | 40  | 34  | 30  | 39  | 34  | 30  |     |    |    |    | 28 |     |   |  |   |

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

|     | 0°    | 45°   | 90°   | 135°  | 180°  |
|-----|-------|-------|-------|-------|-------|
| 0°  | 13743 | 13743 | 13743 | 13743 | 13743 |
| 5°  | 16009 | 15144 | 13801 | 12528 | 12183 |
| 10° | 18748 | 17003 | 13743 | 11591 | 11140 |
| 15° | 21663 | 18904 | 13674 | 10831 | 9729  |
| 20° | 23851 | 20531 | 13481 | 9835  | 8918  |
| 25° | 24233 | 21842 | 13356 | 9075  | 8338  |
| 30° | 21332 | 22617 | 13119 | 8540  | 7997  |
| 35° | 17117 | 22362 | 12896 | 8160  | 7735  |
| 40° | 13022 | 21007 | 12484 | 7831  | 7614  |
| 45° | 10338 | 18664 | 12027 | 7560  | 7522  |
| 50° | 8875  | 15910 | 11431 | 7318  | 7393  |
| 55° | 7837  | 13511 | 10692 | 7064  | 7034  |
| 60° | 7020  | 11420 | 9922  | 6743  | 6443  |
| 65° | 6179  | 9395  | 9168  | 6280  | 5420  |
| 70° | 5507  | 7745  | 8324  | 5759  | 4881  |
| 75° | 4798  | 6079  | 7569  | 5066  | 4341  |
| 80° | 4070  | 4653  | 6501  | 4285  | 4008  |
| 85° | 3559  | 3804  | 5589  | 4171  | 4049  |

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 55°  
 Vertical Angle: 45°  
 Luminance: 20086 cd/sqm



TEST NUMBER: P243604

CATALOG NUMBER: S124RDRP-H1020D835-X4F0-XX-UDD-A-W

**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 150.0  | 3.8       |
| 10°-20°   | 454.9  | 11.4      |
| 20°-30°   | 710.0  | 17.8      |
| 30°-40°   | 791.7  | 19.8      |
| 40°-50°   | 711.7  | 17.8      |
| 50°-60°   | 562.3  | 14.1      |
| 60°-70°   | 373.5  | 9.4       |
| 70°-80°   | 187.3  | 4.7       |
| 80°-90°   | 48.8   | 1.2       |
| 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°    | 1314.9 | 33.0      |
| 0°-40°    | 2106.7 | 52.8      |
| 0°-60°    | 3380.7 | 84.7      |
| 0°-90°    | 3990.2 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 3990.2 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 45°  | 90°  | 135° | 180° | Flux |
|-----|------|------|------|------|------|------|
| 0°  | 1546 | 1546 | 1546 | 1546 | 1546 |      |
| 5°  | 1794 | 1697 | 1547 | 1404 | 1365 | 180  |
| 15° | 2354 | 2054 | 1486 | 1177 | 1057 | 669  |
| 25° | 2471 | 2227 | 1362 | 925  | 850  | 1106 |
| 35° | 1577 | 2061 | 1188 | 752  | 713  | 980  |
| 45° | 822  | 1485 | 957  | 601  | 598  | 652  |
| 55° | 506  | 872  | 690  | 456  | 454  | 456  |
| 65° | 294  | 447  | 436  | 299  | 258  | 294  |
| 75° | 140  | 177  | 220  | 148  | 126  | 149  |
| 85° | 35   | 37   | 55   | 41   | 40   | 39   |
| 90° | 0    | 0    | 0    | 0    | 0    |      |



TEST NUMBER: P243604

CATALOG NUMBER: S124RDRP-H1020D835-X4F0-XX-UDD-A-W

**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 5°     | 10°    | 15°    | 20°    | 25°    | 30°    | 35°    | 40°    | 45°    | 50°    |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0°    | 1546.1 | 1546.1 | 1546.1 | 1546.1 | 1546.1 | 1546.1 | 1546.1 | 1546.1 | 1546.1 | 1546.1 | 1546.1 |
| 2.5°  | 1660.5 | 1654.4 | 1653.8 | 1646.0 | 1645.4 | 1637.6 | 1635.2 | 1628.5 | 1615.3 | 1605.1 | 1605.7 |
| 5°    | 1794.1 | 1789.3 | 1788.7 | 1780.9 | 1778.5 | 1768.8 | 1753.8 | 1735.7 | 1714.6 | 1697.2 | 1685.7 |
| 7.5°  | 1931.4 | 1939.8 | 1930.8 | 1930.8 | 1913.3 | 1901.9 | 1872.4 | 1857.3 | 1821.2 | 1795.9 | 1769.4 |
| 10°   | 2077.1 | 2084.9 | 2081.3 | 2074.1 | 2051.2 | 2027.7 | 1997.0 | 1967.5 | 1923.5 | 1883.8 | 1857.3 |
| 12.5° | 2239.6 | 2216.1 | 2231.2 | 2208.9 | 2190.3 | 2152.9 | 2123.4 | 2064.4 | 2029.5 | 1971.7 | 1919.9 |
| 15°   | 2354.0 | 2345.0 | 2344.4 | 2329.3 | 2308.9 | 2267.9 | 2236.0 | 2174.6 | 2115.0 | 2054.2 | 1995.8 |
| 17.5° | 2456.4 | 2457.6 | 2449.1 | 2425.1 | 2398.6 | 2358.8 | 2315.5 | 2260.7 | 2192.7 | 2125.2 | 2056.0 |
| 20°   | 2521.4 | 2522.0 | 2516.0 | 2503.3 | 2474.4 | 2438.3 | 2393.7 | 2322.1 | 2245.0 | 2170.4 | 2101.2 |
| 22.5° | 2531.0 | 2532.8 | 2531.0 | 2523.2 | 2503.3 | 2473.8 | 2432.9 | 2372.1 | 2294.4 | 2208.9 | 2126.4 |
| 25°   | 2470.8 | 2476.8 | 2477.4 | 2488.3 | 2478.0 | 2466.6 | 2436.5 | 2385.3 | 2313.7 | 2227.0 | 2137.3 |
| 27.5° | 2305.8 | 2322.7 | 2338.4 | 2357.6 | 2375.1 | 2390.7 | 2393.1 | 2366.1 | 2304.6 | 2224.0 | 2138.5 |
| 30°   | 2078.3 | 2098.1 | 2129.4 | 2149.9 | 2204.1 | 2238.4 | 2284.8 | 2295.0 | 2265.5 | 2203.5 | 2121.0 |
| 32.5° | 1813.4 | 1834.4 | 1846.5 | 1913.9 | 1991.6 | 2047.6 | 2124.6 | 2170.4 | 2181.8 | 2152.3 | 2084.9 |
| 35°   | 1577.4 | 1581.0 | 1590.0 | 1666.5 | 1743.5 | 1828.4 | 1924.2 | 2003.6 | 2057.8 | 2060.8 | 2027.7 |
| 37.5° | 1324.5 | 1328.7 | 1364.2 | 1422.6 | 1489.5 | 1582.8 | 1693.0 | 1806.1 | 1905.5 | 1951.2 | 1941.6 |
| 40°   | 1122.2 | 1121.0 | 1158.9 | 1209.5 | 1274.5 | 1371.5 | 1485.3 | 1608.7 | 1714.6 | 1810.4 | 1833.2 |
| 42.5° | 958.5  | 962.7  | 995.2  | 1024.7 | 1087.3 | 1155.3 | 1276.9 | 1405.2 | 1541.2 | 1646.0 | 1715.8 |
| 45°   | 822.4  | 833.2  | 855.5  | 883.2  | 930.2  | 992.8  | 1092.1 | 1219.8 | 1358.8 | 1484.7 | 1568.3 |
| 47.5° | 728.5  | 731.5  | 742.9  | 777.2  | 808.6  | 859.1  | 944.0  | 1052.4 | 1175.8 | 1316.7 | 1426.9 |
| 50°   | 641.8  | 649.0  | 653.2  | 673.7  | 704.4  | 752.6  | 818.2  | 898.9  | 1021.1 | 1150.5 | 1288.4 |
| 52.5° | 567.1  | 571.3  | 579.2  | 597.8  | 621.9  | 655.6  | 707.4  | 778.4  | 880.2  | 1000.0 | 1130.0 |
| 55°   | 505.7  | 506.3  | 514.2  | 527.4  | 546.1  | 571.9  | 621.3  | 672.5  | 762.8  | 871.8  | 989.8  |
| 57.5° | 450.3  | 446.7  | 453.9  | 461.8  | 479.8  | 502.1  | 534.0  | 586.4  | 656.8  | 749.6  | 856.1  |
| 60°   | 394.9  | 398.0  | 397.4  | 406.4  | 416.0  | 438.3  | 465.4  | 499.7  | 557.5  | 642.4  | 732.7  |
| 62.5° | 343.2  | 342.6  | 348.6  | 354.0  | 360.6  | 378.7  | 401.0  | 429.3  | 474.4  | 537.0  | 624.3  |
| 65°   | 293.8  | 295.0  | 299.8  | 304.0  | 311.3  | 322.7  | 339.6  | 362.4  | 398.6  | 446.7  | 520.2  |
| 67.5° | 249.2  | 253.5  | 255.9  | 257.1  | 263.7  | 272.1  | 286.6  | 305.2  | 329.9  | 368.5  | 429.9  |
| 70°   | 211.9  | 213.1  | 214.3  | 218.5  | 221.6  | 226.4  | 237.2  | 247.4  | 269.7  | 298.0  | 342.6  |
| 72.5° | 177.0  | 175.8  | 179.4  | 180.6  | 181.8  | 186.6  | 193.3  | 198.7  | 213.1  | 237.2  | 264.9  |
| 75°   | 139.7  | 140.3  | 140.9  | 142.7  | 147.5  | 148.1  | 151.1  | 157.1  | 167.4  | 177.0  | 195.7  |
| 77.5° | 104.8  | 106.6  | 106.0  | 107.8  | 109.6  | 111.4  | 112.6  | 118.0  | 125.2  | 133.1  | 142.1  |
| 80°   | 79.5   | 79.5   | 79.5   | 80.7   | 79.5   | 83.7   | 83.7   | 85.5   | 87.3   | 90.9   | 97.5   |
| 82.5° | 54.2   | 55.4   | 56.0   | 56.6   | 57.2   | 57.2   | 57.8   | 59.0   | 61.4   | 62.6   | 64.4   |
| 85°   | 34.9   | 33.7   | 34.3   | 34.3   | 34.3   | 34.3   | 35.5   | 36.7   | 36.7   | 37.3   | 39.1   |
| 87.5° | 15.7   | 15.7   | 15.7   | 15.7   | 15.1   | 15.7   | 16.3   | 16.3   | 16.9   | 16.9   | 18.1   |
| 90°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |

TEST NUMBER: P243604

CATALOG NUMBER: S124RDRP-H1020D835-X4F0-XX-UDD-A-W

**CANDELA DISTRIBUTION (continued):**

|       | 55°    | 60°    | 65°    | 70°    | 75°    | 80°    | 85°    | 90°    | 95°    | 100°   | 105°   |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0°    | 1546.1 | 1546.1 | 1546.1 | 1546.1 | 1546.1 | 1546.1 | 1546.1 | 1546.1 | 1546.1 | 1546.1 | 1546.1 |
| 2.5°  | 1602.1 | 1600.2 | 1591.2 | 1581.6 | 1572.6 | 1563.5 | 1560.5 | 1551.5 | 1540.6 | 1531.0 | 1520.2 |
| 5°    | 1673.7 | 1659.2 | 1639.4 | 1618.9 | 1597.8 | 1578.6 | 1563.5 | 1546.7 | 1527.4 | 1504.5 | 1486.5 |
| 7.5°  | 1745.9 | 1719.5 | 1686.9 | 1656.8 | 1620.7 | 1591.8 | 1562.9 | 1538.8 | 1511.1 | 1478.6 | 1453.9 |
| 10°   | 1816.4 | 1772.4 | 1732.7 | 1685.1 | 1639.4 | 1599.6 | 1562.9 | 1522.6 | 1485.9 | 1450.9 | 1416.6 |
| 12.5° | 1872.4 | 1828.4 | 1771.2 | 1712.8 | 1653.8 | 1602.1 | 1552.7 | 1505.1 | 1459.4 | 1417.2 | 1379.3 |
| 15°   | 1936.2 | 1873.0 | 1802.5 | 1738.1 | 1657.4 | 1593.6 | 1537.0 | 1485.9 | 1433.5 | 1382.3 | 1340.8 |
| 17.5° | 1983.2 | 1908.5 | 1821.2 | 1747.1 | 1669.5 | 1590.0 | 1522.0 | 1457.6 | 1397.4 | 1343.8 | 1301.0 |
| 20°   | 2019.3 | 1930.8 | 1843.5 | 1749.6 | 1656.8 | 1575.6 | 1499.1 | 1425.1 | 1364.2 | 1305.8 | 1260.7 |
| 22.5° | 2034.9 | 1941.6 | 1844.7 | 1742.9 | 1644.2 | 1552.1 | 1472.6 | 1396.2 | 1327.5 | 1267.3 | 1214.9 |
| 25°   | 2041.5 | 1939.2 | 1838.7 | 1723.1 | 1623.1 | 1529.2 | 1440.7 | 1361.8 | 1291.4 | 1223.4 | 1171.6 |
| 27.5° | 2036.1 | 1926.6 | 1811.0 | 1702.0 | 1588.8 | 1496.7 | 1402.8 | 1322.7 | 1249.3 | 1183.6 | 1125.8 |
| 30°   | 2021.7 | 1897.7 | 1782.7 | 1660.5 | 1551.5 | 1454.6 | 1363.0 | 1278.2 | 1204.1 | 1137.3 | 1080.1 |
| 32.5° | 1984.4 | 1865.1 | 1734.5 | 1615.3 | 1497.9 | 1402.2 | 1319.1 | 1235.4 | 1160.1 | 1090.3 | 1034.9 |
| 35°   | 1938.0 | 1821.2 | 1684.5 | 1559.9 | 1443.7 | 1346.8 | 1263.1 | 1188.4 | 1114.4 | 1040.3 | 983.7  |
| 37.5° | 1879.6 | 1761.0 | 1629.1 | 1494.9 | 1381.1 | 1287.2 | 1210.7 | 1135.5 | 1062.0 | 994.0  | 930.8  |
| 40°   | 1800.7 | 1692.4 | 1559.9 | 1425.1 | 1310.7 | 1220.4 | 1145.1 | 1075.9 | 1010.8 | 944.0  | 876.0  |
| 42.5° | 1702.6 | 1620.1 | 1483.4 | 1350.4 | 1238.4 | 1148.7 | 1081.9 | 1019.9 | 957.3  | 888.6  | 827.2  |
| 45°   | 1597.8 | 1527.4 | 1403.4 | 1269.1 | 1162.6 | 1075.3 | 1011.4 | 956.7  | 897.7  | 836.8  | 772.4  |
| 47.5° | 1479.8 | 1427.5 | 1320.3 | 1187.2 | 1075.3 | 1000.6 | 941.6  | 891.6  | 838.1  | 783.9  | 721.3  |
| 50°   | 1346.8 | 1314.9 | 1223.4 | 1102.4 | 995.8  | 919.9  | 871.2  | 826.6  | 780.9  | 726.7  | 673.1  |
| 52.5° | 1213.7 | 1207.7 | 1122.2 | 1015.7 | 915.1  | 844.7  | 797.1  | 756.2  | 718.8  | 667.7  | 622.5  |
| 55°   | 1074.1 | 1092.1 | 1021.1 | 922.9  | 833.2  | 765.2  | 723.1  | 689.9  | 657.4  | 614.1  | 570.7  |
| 57.5° | 950.0  | 970.5  | 921.7  | 831.4  | 747.7  | 689.9  | 653.8  | 623.7  | 595.4  | 555.7  | 526.8  |
| 60°   | 812.8  | 850.1  | 824.2  | 741.7  | 667.7  | 615.9  | 582.2  | 558.1  | 534.6  | 500.3  | 475.0  |
| 62.5° | 704.4  | 730.3  | 715.2  | 653.8  | 588.2  | 546.1  | 516.0  | 493.7  | 475.0  | 448.5  | 423.8  |
| 65°   | 588.2  | 620.7  | 612.9  | 572.5  | 514.8  | 476.2  | 453.3  | 435.9  | 416.6  | 395.5  | 375.1  |
| 67.5° | 483.4  | 517.2  | 515.4  | 487.7  | 444.9  | 413.0  | 391.3  | 378.7  | 363.0  | 342.6  | 329.9  |
| 70°   | 388.9  | 420.2  | 421.4  | 407.6  | 377.5  | 347.4  | 331.7  | 320.3  | 308.2  | 293.2  | 284.2  |
| 72.5° | 302.2  | 330.5  | 335.3  | 328.7  | 309.5  | 289.6  | 275.7  | 267.9  | 257.7  | 245.0  | 237.2  |
| 75°   | 225.8  | 246.2  | 257.7  | 254.7  | 246.8  | 233.6  | 225.8  | 220.4  | 210.1  | 201.1  | 194.5  |
| 77.5° | 160.7  | 177.0  | 188.4  | 193.3  | 189.6  | 184.2  | 177.0  | 172.8  | 162.0  | 157.7  | 154.1  |
| 80°   | 107.8  | 122.2  | 132.5  | 135.5  | 137.3  | 136.1  | 129.4  | 127.0  | 121.6  | 119.8  | 116.2  |
| 82.5° | 66.2   | 74.1   | 81.3   | 89.1   | 92.7   | 92.7   | 89.1   | 89.7   | 84.9   | 82.5   | 81.3   |
| 85°   | 40.3   | 42.1   | 43.3   | 49.4   | 54.2   | 56.0   | 54.2   | 54.8   | 53.0   | 51.2   | 49.4   |
| 87.5° | 18.7   | 18.7   | 19.3   | 20.5   | 21.7   | 25.3   | 26.5   | 28.3   | 25.9   | 25.9   | 21.7   |
| 90°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |



TEST NUMBER: P243604

CATALOG NUMBER: S124RDRP-H1020D835-X4F0-XX-UDD-A-W

**CANDELA DISTRIBUTION (continued):**

|       | 110°   | 115°   | 120°   | 125°   | 130°   | 135°   | 140°   | 145°   | 150°   | 155°   | 160°   |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0°    | 1546.1 | 1546.1 | 1546.1 | 1546.1 | 1546.1 | 1546.1 | 1546.1 | 1546.1 | 1546.1 | 1546.1 | 1546.1 |
| 2.5°  | 1513.6 | 1505.7 | 1499.7 | 1490.1 | 1482.2 | 1469.6 | 1465.4 | 1465.4 | 1467.8 | 1464.8 | 1467.8 |
| 5°    | 1473.8 | 1459.4 | 1443.7 | 1429.9 | 1414.8 | 1404.0 | 1393.1 | 1390.7 | 1389.5 | 1382.3 | 1382.9 |
| 7.5°  | 1434.1 | 1414.8 | 1394.9 | 1376.9 | 1358.2 | 1341.4 | 1329.9 | 1325.1 | 1320.9 | 1316.1 | 1310.7 |
| 10°   | 1391.3 | 1369.1 | 1345.6 | 1325.1 | 1307.0 | 1284.2 | 1272.7 | 1269.1 | 1257.1 | 1254.7 | 1246.2 |
| 12.5° | 1346.2 | 1323.3 | 1299.8 | 1273.3 | 1255.9 | 1233.6 | 1216.7 | 1208.9 | 1197.5 | 1189.0 | 1176.4 |
| 15°   | 1310.7 | 1281.8 | 1250.5 | 1224.6 | 1201.7 | 1177.0 | 1154.1 | 1139.1 | 1124.0 | 1100.5 | 1089.1 |
| 17.5° | 1266.7 | 1233.6 | 1206.5 | 1178.8 | 1145.7 | 1109.6 | 1082.5 | 1060.2 | 1044.0 | 1024.7 | 1013.2 |
| 20°   | 1219.2 | 1188.4 | 1154.7 | 1115.6 | 1080.7 | 1039.7 | 1015.1 | 996.4  | 983.7  | 972.3  | 966.3  |
| 22.5° | 1177.0 | 1141.5 | 1095.1 | 1057.8 | 1009.0 | 976.5  | 956.7  | 944.6  | 932.6  | 920.5  | 914.5  |
| 25°   | 1131.3 | 1089.7 | 1033.1 | 987.4  | 950.6  | 925.3  | 906.1  | 894.6  | 882.0  | 874.8  | 865.7  |
| 27.5° | 1086.1 | 1032.5 | 975.9  | 934.4  | 905.5  | 876.0  | 859.7  | 850.7  | 841.1  | 830.8  | 823.6  |
| 30°   | 1031.3 | 970.5  | 923.5  | 885.6  | 856.7  | 832.0  | 820.0  | 806.7  | 798.3  | 792.3  | 788.1  |
| 32.5° | 974.1  | 915.7  | 873.0  | 840.5  | 812.2  | 793.5  | 778.4  | 770.0  | 762.8  | 756.2  | 751.4  |
| 35°   | 920.5  | 863.9  | 827.8  | 796.5  | 773.0  | 752.0  | 740.5  | 732.7  | 726.7  | 721.3  | 718.8  |
| 37.5° | 867.6  | 819.4  | 780.3  | 755.6  | 730.9  | 714.0  | 703.2  | 696.0  | 692.4  | 686.9  | 687.5  |
| 40°   | 815.2  | 771.8  | 740.5  | 712.2  | 689.3  | 674.9  | 666.5  | 663.5  | 658.0  | 656.2  | 658.0  |
| 42.5° | 768.2  | 728.5  | 698.4  | 671.9  | 652.0  | 638.2  | 631.5  | 627.3  | 625.5  | 624.9  | 625.5  |
| 45°   | 722.5  | 685.1  | 656.2  | 634.6  | 614.1  | 601.4  | 596.0  | 593.0  | 591.2  | 594.2  | 594.8  |
| 47.5° | 676.7  | 643.0  | 617.1  | 591.8  | 575.0  | 565.9  | 560.5  | 558.1  | 559.9  | 561.1  | 565.3  |
| 50°   | 631.5  | 600.2  | 573.2  | 550.9  | 537.6  | 529.2  | 527.4  | 523.2  | 526.2  | 528.0  | 531.0  |
| 52.5° | 585.8  | 557.5  | 533.4  | 512.3  | 498.5  | 493.1  | 488.9  | 487.1  | 491.3  | 491.3  | 494.3  |
| 55°   | 539.4  | 514.8  | 492.5  | 473.2  | 462.4  | 455.8  | 452.7  | 450.3  | 452.7  | 453.3  | 452.7  |
| 57.5° | 496.1  | 472.6  | 449.1  | 432.9  | 423.8  | 416.6  | 413.6  | 412.4  | 411.8  | 414.2  | 413.6  |
| 60°   | 450.3  | 428.1  | 409.4  | 392.5  | 383.5  | 379.3  | 372.7  | 373.9  | 373.9  | 373.9  | 367.9  |
| 62.5° | 404.6  | 382.3  | 366.0  | 354.6  | 343.8  | 336.5  | 335.3  | 333.5  | 329.9  | 329.3  | 321.5  |
| 65°   | 357.6  | 340.8  | 326.9  | 315.5  | 304.6  | 298.6  | 296.8  | 291.4  | 287.2  | 279.4  | 273.9  |
| 67.5° | 314.3  | 302.2  | 286.0  | 276.3  | 267.3  | 260.1  | 253.5  | 249.2  | 240.8  | 233.0  | 228.2  |
| 70°   | 270.9  | 258.3  | 247.4  | 237.2  | 228.2  | 221.6  | 213.7  | 205.9  | 200.5  | 195.7  | 192.1  |
| 72.5° | 227.6  | 216.7  | 207.7  | 198.1  | 188.4  | 181.8  | 175.8  | 169.8  | 167.4  | 165.0  | 163.2  |
| 75°   | 187.2  | 177.0  | 168.6  | 160.7  | 155.3  | 147.5  | 144.5  | 142.1  | 139.7  | 136.7  | 133.1  |
| 77.5° | 148.1  | 140.3  | 133.7  | 127.0  | 122.2  | 118.0  | 115.6  | 108.4  | 102.3  | 101.1  | 99.9   |
| 80°   | 110.2  | 104.2  | 99.9   | 95.1   | 89.7   | 83.7   | 81.9   | 79.5   | 78.3   | 78.3   | 78.9   |
| 82.5° | 77.1   | 73.5   | 68.6   | 64.4   | 62.6   | 60.2   | 60.2   | 59.6   | 59.0   | 59.6   | 59.6   |
| 85°   | 47.0   | 42.1   | 40.9   | 40.3   | 40.9   | 40.9   | 40.9   | 40.9   | 40.3   | 40.9   | 39.7   |
| 87.5° | 20.5   | 22.3   | 22.9   | 21.1   | 21.7   | 20.5   | 21.1   | 21.1   | 21.1   | 21.7   | 21.1   |
| 90°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |



TEST NUMBER: P243604

CATALOG NUMBER: S124RDRP-H1020D835-X4F0-XX-UDD-A-W

**CANDELA DISTRIBUTION (continued):**

|       | 165°   | 170°   | 175°   | 180°   |
|-------|--------|--------|--------|--------|
| 0°    | 1546.1 | 1546.1 | 1546.1 | 1546.1 |
| 2.5°  | 1464.2 | 1464.2 | 1458.2 | 1453.3 |
| 5°    | 1381.7 | 1373.9 | 1372.7 | 1365.4 |
| 7.5°  | 1304.6 | 1303.4 | 1300.4 | 1300.4 |
| 10°   | 1243.2 | 1239.0 | 1234.8 | 1234.2 |
| 12.5° | 1156.5 | 1162.6 | 1155.3 | 1153.5 |
| 15°   | 1080.7 | 1075.9 | 1069.8 | 1057.2 |
| 17.5° | 1010.2 | 1001.2 | 998.8  | 993.4  |
| 20°   | 954.9  | 948.2  | 945.8  | 942.8  |
| 22.5° | 902.5  | 901.3  | 894.0  | 892.2  |
| 25°   | 863.9  | 857.9  | 853.1  | 850.1  |
| 27.5° | 821.8  | 817.6  | 815.2  | 810.4  |
| 30°   | 783.3  | 782.1  | 779.1  | 779.1  |
| 32.5° | 748.3  | 744.7  | 744.7  | 744.1  |
| 35°   | 716.4  | 717.6  | 714.0  | 712.8  |
| 37.5° | 686.3  | 684.5  | 685.1  | 683.9  |
| 40°   | 656.8  | 655.6  | 655.6  | 656.2  |
| 42.5° | 626.7  | 627.3  | 628.5  | 628.5  |
| 45°   | 596.6  | 597.2  | 598.4  | 598.4  |
| 47.5° | 568.3  | 567.1  | 568.3  | 567.1  |
| 50°   | 532.2  | 535.8  | 535.2  | 534.6  |
| 52.5° | 495.5  | 494.3  | 496.7  | 496.1  |
| 55°   | 455.8  | 453.9  | 456.4  | 453.9  |
| 57.5° | 411.2  | 411.8  | 411.8  | 410.6  |
| 60°   | 366.6  | 364.8  | 362.4  | 362.4  |
| 62.5° | 314.9  | 309.5  | 305.8  | 308.2  |
| 65°   | 264.9  | 260.7  | 259.5  | 257.7  |
| 67.5° | 225.2  | 220.4  | 218.5  | 217.9  |
| 70°   | 190.8  | 188.4  | 187.8  | 187.8  |
| 72.5° | 162.0  | 162.0  | 160.1  | 158.9  |
| 75°   | 131.8  | 129.4  | 126.4  | 126.4  |
| 77.5° | 98.7   | 98.1   | 97.5   | 97.5   |
| 80°   | 77.1   | 77.1   | 77.7   | 78.3   |
| 82.5° | 57.8   | 58.4   | 59.0   | 59.0   |
| 85°   | 39.1   | 39.1   | 39.7   | 39.7   |
| 87.5° | 21.1   | 21.1   | 21.1   | 20.5   |
| 90°   | 0.0    | 0.0    | 0.0    | 0.0    |



TEST NUMBER: P243604  
 CATALOG NUMBER: S124RDRP-H1020D835-X4F0-XX-UDD-A-W

**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 | 18.44            | 19.98 | 18.81 | 20.29 | 20.61 | 20.14          | 21.67 | 20.51 | 21.99 | 22.30 |
|                 | 3H   | 19.68            | 21.06 | 20.06 | 21.38 | 21.74 | 21.62          | 23.00 | 22.00 | 23.33 | 23.69 |
|                 | 4H   | 20.11            | 21.40 | 20.51 | 21.75 | 22.13 | 22.16          | 23.46 | 22.56 | 23.81 | 24.18 |
|                 | 6H   | 20.39            | 21.58 | 20.80 | 21.95 | 22.34 | 22.55          | 23.75 | 22.96 | 24.11 | 24.50 |
|                 | 8H   | 20.47            | 21.61 | 20.90 | 22.00 | 22.40 | 22.67          | 23.81 | 23.10 | 24.20 | 24.60 |
|                 | 12H  | 20.53            | 21.62 | 20.96 | 22.00 | 22.43 | 22.75          | 23.84 | 23.18 | 24.22 | 24.65 |
| 4H              | 2H   | 19.65            | 20.95 | 20.05 | 21.29 | 21.67 | 20.67          | 21.96 | 21.07 | 22.31 | 22.69 |
|                 | 3H   | 20.92            | 21.99 | 21.33 | 22.39 | 22.80 | 22.44          | 23.52 | 22.86 | 23.92 | 24.32 |
|                 | 4H   | 21.39            | 22.36 | 21.82 | 22.77 | 23.21 | 23.10          | 24.07 | 23.54 | 24.48 | 24.92 |
|                 | 6H   | 21.73            | 22.57 | 22.18 | 23.01 | 23.47 | 23.60          | 24.44 | 24.06 | 24.88 | 25.34 |
|                 | 8H   | 21.83            | 22.61 | 22.29 | 23.06 | 23.52 | 23.76          | 24.54 | 24.22 | 24.99 | 25.45 |
|                 | 12H  | 21.90            | 22.61 | 22.39 | 23.08 | 23.55 | 23.87          | 24.57 | 24.35 | 25.05 | 25.52 |
| 8H              | 4H   | 21.80            | 22.59 | 22.27 | 23.03 | 23.50 | 23.23          | 24.02 | 23.69 | 24.46 | 24.93 |
|                 | 6H   | 22.20            | 22.85 | 22.70 | 23.34 | 23.82 | 23.83          | 24.48 | 24.32 | 24.97 | 25.45 |
|                 | 8H   | 22.35            | 22.93 | 22.86 | 23.44 | 23.93 | 24.05          | 24.63 | 24.56 | 25.14 | 25.63 |
|                 | 12H  | 22.47            | 22.98 | 22.98 | 23.48 | 24.04 | 24.23          | 24.74 | 24.74 | 25.23 | 25.80 |
| 12H             | 4H   | 21.85            | 22.55 | 22.33 | 23.03 | 23.50 | 23.22          | 23.92 | 23.70 | 24.40 | 24.87 |
|                 | 6H   | 22.26            | 22.84 | 22.77 | 23.35 | 23.84 | 23.82          | 24.41 | 24.33 | 24.91 | 25.40 |
|                 | 8H   | 22.45            | 22.96 | 22.96 | 23.46 | 24.02 | 24.08          | 24.60 | 24.59 | 25.09 | 25.65 |