

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: P242475

Luminaire Tested: S123DRP-S1165D840-X4F0-XX-UDD-A-W

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-2024  
Report Number: P242475  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-20)  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S123DRP-S1165D840-X4F0-XX-UDD-A-W  
Description: DEFINE 3 DIRECT RECESSED WITH ASYMMETRIC FLUSH DIFFUSER  
STANDARD LIGHT ENGINE  
Light Source: (92) 4000K CCT, 80 CRI LEDS  
Ballast/Driver: -

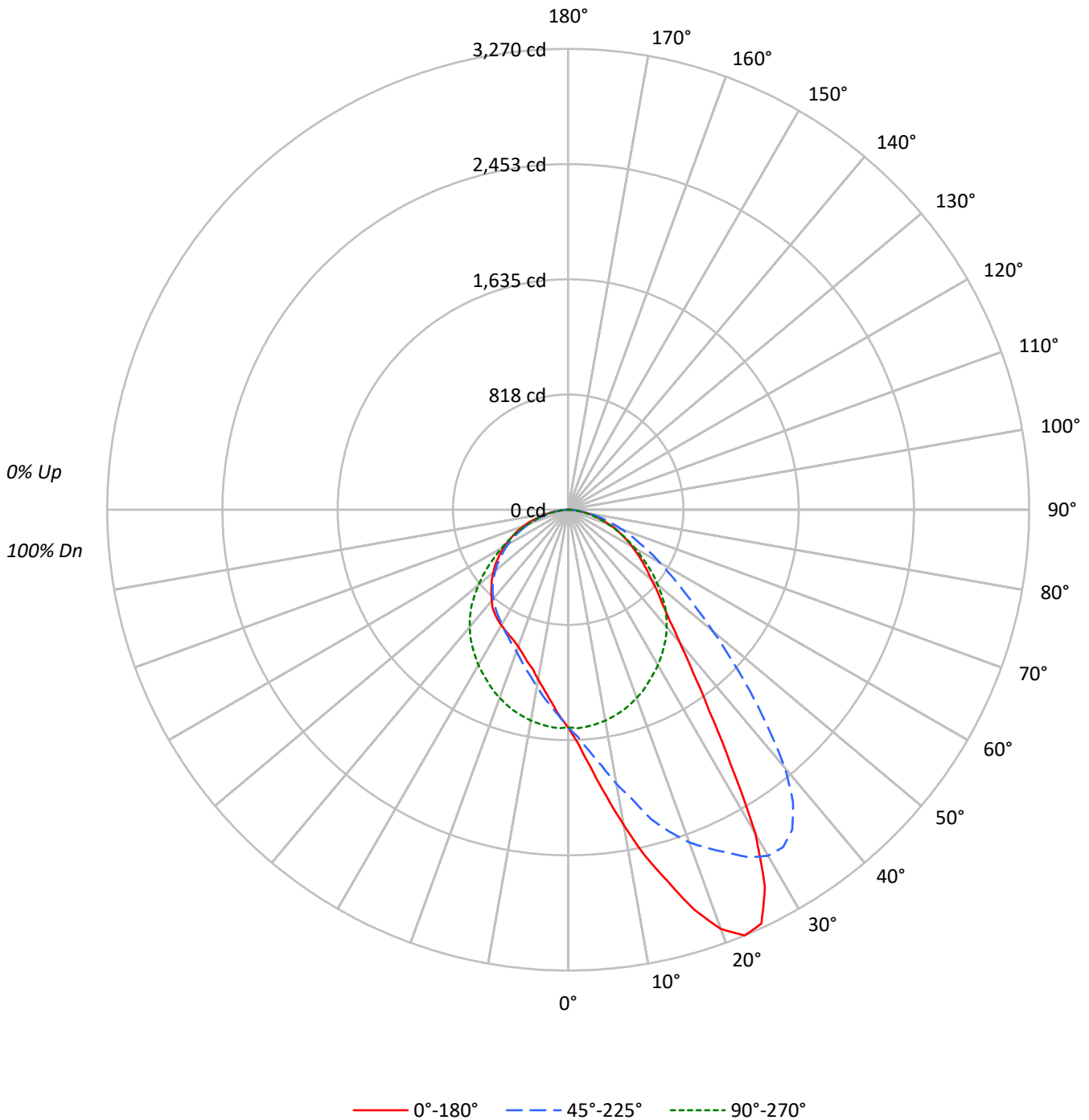
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4661.8 lumens  
Efficiency: N/A  
Efficacy: 113.4 lumens/watt  
Spacing Criteria (0/90/45): 1.37 / 1.23 / 1.5  
Luminous Opening: Rectangular (W 3.88' x L: 0.23' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 41.1  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): 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: P242475

CATALOG NUMBER: S123DRP-S1165D840-X4F0-XX-UDD-A-W

### Luminous Intensity Polar Plot



TEST NUMBER: P242475

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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 | 105 | 101 | 98  | 107 | 103 | 99  | 96  | 99  | 96  | 93  | 95  | 92  | 90  | 91  | 89  | 87  | 85  |    |    |    |    | 85  |   |  |   |
| 2   | 100 | 93  | 86  | 81  | 98  | 91  | 85  | 80  | 87  | 82  | 78  | 84  | 80  | 76  | 81  | 78  | 74  | 72  |    |    |    |    | 72  |   |  |   |
| 3   | 92  | 82  | 74  | 68  | 89  | 80  | 73  | 67  | 77  | 71  | 66  | 75  | 69  | 65  | 72  | 68  | 64  | 62  |    |    |    |    | 62  |   |  |   |
| 4   | 84  | 73  | 65  | 58  | 82  | 72  | 64  | 58  | 69  | 62  | 57  | 67  | 61  | 56  | 65  | 60  | 56  | 53  |    |    |    |    | 53  |   |  |   |
| 5   | 78  | 66  | 57  | 51  | 76  | 64  | 56  | 50  | 62  | 55  | 50  | 60  | 54  | 49  | 59  | 53  | 49  | 47  |    |    |    |    | 47  |   |  |   |
| 6   | 72  | 59  | 51  | 44  | 70  | 58  | 50  | 44  | 56  | 49  | 44  | 55  | 48  | 43  | 53  | 48  | 43  | 41  |    |    |    |    | 41  |   |  |   |
| 7   | 67  | 54  | 45  | 39  | 65  | 53  | 45  | 39  | 52  | 44  | 39  | 50  | 44  | 39  | 49  | 43  | 38  | 36  |    |    |    |    | 36  |   |  |   |
| 8   | 62  | 49  | 41  | 35  | 61  | 49  | 41  | 35  | 47  | 40  | 35  | 46  | 39  | 35  | 45  | 39  | 35  | 33  |    |    |    |    | 33  |   |  |   |
| 9   | 58  | 45  | 37  | 32  | 57  | 45  | 37  | 32  | 43  | 36  | 32  | 42  | 36  | 31  | 41  | 36  | 31  | 29  |    |    |    |    | 29  |   |  |   |
| 10  | 55  | 42  | 34  | 29  | 53  | 41  | 34  | 29  | 40  | 33  | 29  | 39  | 33  | 29  | 38  | 33  | 28  | 27  |    |    |    |    | 27  |   |  |   |

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

|     | 0°    | 45°   | 90°   | 135°  | 180°  |
|-----|-------|-------|-------|-------|-------|
| 0°  | 18721 | 18721 | 18721 | 18721 | 18721 |
| 5°  | 22326 | 20923 | 18802 | 17027 | 16662 |
| 10° | 27945 | 24325 | 18706 | 15686 | 15050 |
| 15° | 34276 | 28528 | 18556 | 14631 | 14011 |
| 20° | 40831 | 32395 | 18321 | 13803 | 13340 |
| 25° | 43355 | 35930 | 18035 | 13401 | 13191 |
| 30° | 37160 | 39674 | 17826 | 13144 | 13260 |
| 35° | 25845 | 40993 | 17529 | 13100 | 13399 |
| 40° | 19466 | 37843 | 17181 | 13071 | 13356 |
| 45° | 16163 | 31300 | 16664 | 12982 | 13187 |
| 50° | 14479 | 25259 | 15606 | 12729 | 13066 |
| 55° | 13538 | 20953 | 14470 | 12367 | 12904 |
| 60° | 12698 | 18124 | 13280 | 12010 | 12771 |
| 65° | 11934 | 15947 | 12106 | 11398 | 12362 |
| 70° | 11192 | 14240 | 10767 | 10476 | 11777 |
| 75° | 10022 | 12336 | 9427  | 9357  | 10795 |
| 80° | 8774  | 10135 | 7734  | 7574  | 9298  |
| 85° | 6870  | 7913  | 5619  | 5521  | 6244  |

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 55°  
 Vertical Angle: 45°  
 Luminance: 36996 cd/sqm



TEST NUMBER: P242475

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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 151.9  | 3.3       |
| 10°-20°   | 487.9  | 10.5      |
| 20°-30°   | 820.9  | 17.6      |
| 30°-40°   | 927.8  | 19.9      |
| 40°-50°   | 831.0  | 17.8      |
| 50°-60°   | 670.8  | 14.4      |
| 60°-70°   | 467.4  | 10.0      |
| 70°-80°   | 245.3  | 5.3       |
| 80°-90°   | 58.8   | 1.3       |
| 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°    | 1460.7 | 31.3      |
| 0°-40°    | 2388.5 | 51.2      |
| 0°-60°    | 3890.3 | 83.5      |
| 0°-90°    | 4661.8 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 4661.8 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 45°  | 90°  | 135° | 180° | Flux |
|-----|------|------|------|------|------|------|
| 0°  | 1544 | 1544 | 1544 | 1544 | 1544 |      |
| 5°  | 1835 | 1720 | 1545 | 1399 | 1369 | 189  |
| 15° | 2731 | 2273 | 1479 | 1166 | 1116 | 788  |
| 25° | 3242 | 2686 | 1348 | 1002 | 986  | 1433 |
| 35° | 1747 | 2770 | 1185 | 885  | 906  | 1127 |
| 45° | 943  | 1826 | 972  | 757  | 769  | 744  |
| 55° | 641  | 992  | 685  | 585  | 611  | 575  |
| 65° | 416  | 556  | 422  | 397  | 431  | 414  |
| 75° | 214  | 263  | 201  | 200  | 230  | 229  |
| 85° | 49   | 57   | 40   | 40   | 45   | 60   |
| 90° | 0    | 0    | 0    | 0    | 0    |      |



TEST NUMBER: P242475

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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 5°     | 10°    | 15°    | 20°    | 25°    | 30°    | 35°    | 40°    | 45°    | 50°    |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0°    | 1544.5 | 1544.5 | 1544.5 | 1544.5 | 1544.5 | 1544.5 | 1544.5 | 1544.5 | 1544.5 | 1544.5 | 1544.5 |
| 2.5°  | 1662.8 | 1661.3 | 1657.5 | 1660.5 | 1654.5 | 1646.3 | 1645.6 | 1638.1 | 1616.4 | 1614.9 | 1608.9 |
| 5°    | 1834.9 | 1828.9 | 1828.1 | 1827.4 | 1816.9 | 1802.7 | 1775.8 | 1773.5 | 1737.6 | 1719.6 | 1697.9 |
| 7.5°  | 2042.9 | 2040.7 | 2034.7 | 2027.9 | 1992.8 | 1975.6 | 1950.1 | 1917.2 | 1875.3 | 1834.9 | 1809.4 |
| 10°   | 2270.4 | 2295.1 | 2264.4 | 2243.5 | 2224.0 | 2187.3 | 2144.7 | 2091.6 | 2038.4 | 1976.3 | 1929.2 |
| 12.5° | 2514.4 | 2523.3 | 2523.3 | 2503.9 | 2470.9 | 2410.3 | 2326.5 | 2266.7 | 2218.8 | 2105.0 | 2064.6 |
| 15°   | 2731.4 | 2777.0 | 2747.8 | 2680.5 | 2682.0 | 2628.8 | 2530.1 | 2421.6 | 2363.9 | 2273.4 | 2149.9 |
| 17.5° | 2976.8 | 2985.0 | 2976.1 | 2913.2 | 2882.5 | 2805.4 | 2716.4 | 2615.4 | 2506.9 | 2396.9 | 2268.9 |
| 20°   | 3165.4 | 3160.9 | 3134.7 | 3105.5 | 3041.2 | 2984.3 | 2884.8 | 2768.8 | 2619.1 | 2511.4 | 2368.4 |
| 22.5° | 3270.2 | 3261.9 | 3252.9 | 3229.7 | 3178.9 | 3116.7 | 3029.9 | 2900.5 | 2759.8 | 2601.2 | 2430.5 |
| 25°   | 3241.7 | 3251.4 | 3252.9 | 3246.2 | 3227.5 | 3190.8 | 3120.5 | 3019.5 | 2877.3 | 2686.5 | 2514.4 |
| 27.5° | 3021.7 | 3046.4 | 3077.8 | 3098.8 | 3132.5 | 3154.9 | 3132.5 | 3068.9 | 2952.1 | 2781.5 | 2569.7 |
| 30°   | 2655.0 | 2625.1 | 2699.2 | 2792.7 | 2856.3 | 2968.6 | 3031.4 | 3035.2 | 2976.1 | 2834.6 | 2629.6 |
| 32.5° | 2146.2 | 2194.8 | 2217.3 | 2337.7 | 2495.6 | 2625.1 | 2765.8 | 2890.8 | 2919.9 | 2837.6 | 2664.8 |
| 35°   | 1746.6 | 1787.7 | 1847.6 | 1907.5 | 2057.1 | 2185.8 | 2405.8 | 2597.4 | 2750.1 | 2770.3 | 2660.3 |
| 37.5° | 1451.7 | 1475.7 | 1512.4 | 1576.0 | 1678.5 | 1837.9 | 2012.2 | 2261.4 | 2471.7 | 2619.9 | 2604.9 |
| 40°   | 1230.2 | 1236.2 | 1278.9 | 1324.5 | 1403.8 | 1529.6 | 1683.0 | 1897.0 | 2161.9 | 2391.6 | 2487.4 |
| 42.5° | 1064.1 | 1079.1 | 1091.0 | 1134.5 | 1193.6 | 1280.4 | 1420.3 | 1587.9 | 1825.1 | 2098.3 | 2308.6 |
| 45°   | 942.9  | 957.8  | 969.1  | 998.3  | 1043.2 | 1106.8 | 1206.3 | 1367.9 | 1552.8 | 1825.9 | 2078.1 |
| 47.5° | 859.1  | 857.6  | 867.3  | 890.5  | 922.7  | 973.6  | 1046.9 | 1154.7 | 1332.0 | 1560.2 | 1824.4 |
| 50°   | 767.8  | 779.7  | 782.7  | 800.0  | 823.9  | 859.1  | 917.4  | 1005.7 | 1144.9 | 1339.5 | 1577.5 |
| 52.5° | 703.4  | 704.9  | 714.6  | 725.9  | 746.1  | 771.5  | 820.2  | 884.5  | 986.3  | 1144.9 | 1358.9 |
| 55°   | 640.6  | 640.6  | 648.8  | 658.5  | 670.5  | 695.2  | 728.9  | 779.7  | 862.8  | 991.5  | 1172.6 |
| 57.5° | 582.2  | 585.2  | 592.7  | 594.9  | 605.4  | 622.6  | 651.8  | 692.2  | 755.8  | 859.8  | 1009.5 |
| 60°   | 523.8  | 530.6  | 529.8  | 535.8  | 544.8  | 557.5  | 581.4  | 612.9  | 668.2  | 747.6  | 868.8  |
| 62.5° | 472.9  | 470.7  | 470.7  | 478.2  | 487.2  | 499.1  | 512.6  | 538.8  | 583.7  | 651.8  | 750.6  |
| 65°   | 416.1  | 414.6  | 419.8  | 424.3  | 427.3  | 436.3  | 448.2  | 472.2  | 503.6  | 556.0  | 636.1  |
| 67.5° | 366.7  | 362.2  | 365.9  | 367.4  | 372.7  | 380.1  | 392.1  | 407.1  | 432.5  | 476.7  | 541.0  |
| 70°   | 315.8  | 312.0  | 311.3  | 312.8  | 317.3  | 322.5  | 330.8  | 345.0  | 368.2  | 401.8  | 446.0  |
| 72.5° | 263.4  | 261.2  | 261.2  | 264.9  | 266.4  | 269.4  | 274.6  | 287.4  | 304.6  | 327.8  | 368.2  |
| 75°   | 214.0  | 214.0  | 214.0  | 214.8  | 217.0  | 220.0  | 224.5  | 231.2  | 245.4  | 263.4  | 291.1  |
| 77.5° | 169.1  | 169.9  | 168.4  | 167.6  | 171.4  | 172.9  | 173.6  | 181.1  | 189.3  | 202.8  | 224.5  |
| 80°   | 125.7  | 122.0  | 123.5  | 125.7  | 127.2  | 128.0  | 130.2  | 131.7  | 138.4  | 145.2  | 159.4  |
| 82.5° | 85.3   | 82.3   | 82.3   | 86.1   | 86.1   | 86.8   | 89.0   | 91.3   | 92.8   | 98.8   | 104.8  |
| 85°   | 49.4   | 49.4   | 50.1   | 50.1   | 50.9   | 50.1   | 52.4   | 53.1   | 53.1   | 56.9   | 61.4   |
| 87.5° | 22.4   | 21.0   | 21.7   | 22.4   | 21.7   | 22.4   | 23.2   | 23.9   | 24.7   | 25.4   | 26.2   |
| 90°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |



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**CANDELA DISTRIBUTION (continued):**

|       | 55°    | 60°    | 65°    | 70°    | 75°    | 80°    | 85°    | 90°    | 95°    | 100°   | 105°   |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0°    | 1544.5 | 1544.5 | 1544.5 | 1544.5 | 1544.5 | 1544.5 | 1544.5 | 1544.5 | 1544.5 | 1544.5 | 1544.5 |
| 2.5°  | 1604.4 | 1598.4 | 1592.4 | 1581.9 | 1573.0 | 1560.2 | 1556.5 | 1552.0 | 1538.5 | 1526.6 | 1517.6 |
| 5°    | 1689.7 | 1671.7 | 1645.6 | 1621.6 | 1602.2 | 1576.0 | 1561.0 | 1545.3 | 1522.8 | 1502.6 | 1486.2 |
| 7.5°  | 1771.3 | 1739.8 | 1703.2 | 1663.5 | 1625.3 | 1588.7 | 1559.5 | 1533.3 | 1504.1 | 1475.7 | 1454.0 |
| 10°   | 1872.3 | 1821.4 | 1764.5 | 1703.2 | 1650.8 | 1599.9 | 1557.3 | 1519.8 | 1479.4 | 1444.3 | 1415.1 |
| 12.5° | 1987.5 | 1906.0 | 1822.2 | 1744.3 | 1680.0 | 1604.4 | 1550.5 | 1500.4 | 1453.2 | 1409.1 | 1375.4 |
| 15°   | 2073.6 | 1977.8 | 1885.0 | 1782.5 | 1688.2 | 1599.9 | 1538.5 | 1478.7 | 1425.5 | 1382.1 | 1340.2 |
| 17.5° | 2158.9 | 2054.1 | 1935.9 | 1812.4 | 1701.7 | 1599.9 | 1516.1 | 1451.7 | 1386.6 | 1334.3 | 1293.8 |
| 20°   | 2229.2 | 2105.8 | 1967.3 | 1837.9 | 1712.2 | 1595.4 | 1501.1 | 1420.3 | 1348.5 | 1292.3 | 1245.2 |
| 22.5° | 2289.9 | 2140.2 | 1995.8 | 1855.1 | 1711.4 | 1583.4 | 1473.4 | 1389.6 | 1310.3 | 1255.7 | 1204.8 |
| 25°   | 2328.0 | 2155.2 | 2011.5 | 1849.1 | 1692.7 | 1562.5 | 1442.8 | 1348.5 | 1270.6 | 1206.3 | 1154.7 |
| 27.5° | 2363.9 | 2152.9 | 1990.5 | 1815.4 | 1670.2 | 1540.8 | 1412.1 | 1311.1 | 1229.5 | 1159.9 | 1106.8 |
| 30°   | 2399.9 | 2156.7 | 1953.9 | 1781.0 | 1634.3 | 1499.6 | 1375.4 | 1273.6 | 1186.8 | 1115.7 | 1066.4 |
| 32.5° | 2422.3 | 2154.4 | 1920.2 | 1733.1 | 1577.5 | 1462.2 | 1335.7 | 1229.5 | 1139.7 | 1070.1 | 1023.0 |
| 35°   | 2428.3 | 2141.7 | 1880.5 | 1663.5 | 1515.3 | 1399.4 | 1293.8 | 1184.6 | 1091.0 | 1025.9 | 972.1  |
| 37.5° | 2415.6 | 2118.5 | 1837.1 | 1600.7 | 1440.5 | 1325.3 | 1233.2 | 1139.7 | 1049.9 | 977.3  | 930.2  |
| 40°   | 2374.4 | 2096.0 | 1784.7 | 1533.3 | 1362.7 | 1252.7 | 1177.1 | 1085.8 | 997.5  | 929.4  | 886.0  |
| 42.5° | 2295.8 | 2050.4 | 1727.1 | 1458.5 | 1281.9 | 1171.9 | 1103.8 | 1031.2 | 948.9  | 886.0  | 842.6  |
| 45°   | 2158.2 | 1980.1 | 1669.5 | 1383.6 | 1202.5 | 1088.8 | 1027.4 | 972.1  | 896.5  | 834.4  | 797.0  |
| 47.5° | 1982.3 | 1885.0 | 1586.4 | 1305.1 | 1119.5 | 1009.5 | 945.1  | 899.5  | 840.4  | 790.2  | 753.6  |
| 50°   | 1797.5 | 1762.3 | 1501.9 | 1224.2 | 1036.4 | 929.4  | 868.0  | 827.6  | 788.0  | 737.8  | 704.9  |
| 52.5° | 1584.2 | 1620.1 | 1403.1 | 1140.4 | 951.9  | 847.1  | 790.2  | 760.3  | 725.1  | 686.2  | 658.5  |
| 55°   | 1386.6 | 1465.2 | 1286.4 | 1044.7 | 868.0  | 767.8  | 713.1  | 684.7  | 663.8  | 633.1  | 608.4  |
| 57.5° | 1195.1 | 1295.3 | 1165.1 | 948.1  | 785.7  | 698.2  | 644.3  | 612.1  | 598.7  | 581.4  | 561.2  |
| 60°   | 1028.2 | 1127.0 | 1033.4 | 850.8  | 702.7  | 620.4  | 574.0  | 547.8  | 534.3  | 523.1  | 506.6  |
| 62.5° | 879.3  | 979.5  | 904.7  | 752.1  | 621.1  | 546.3  | 507.4  | 481.9  | 472.2  | 467.7  | 454.2  |
| 65°   | 745.3  | 831.4  | 779.0  | 648.8  | 544.0  | 476.7  | 440.0  | 422.1  | 412.3  | 410.1  | 401.1  |
| 67.5° | 629.3  | 695.9  | 655.5  | 557.5  | 472.2  | 410.8  | 378.6  | 362.9  | 354.7  | 354.0  | 346.5  |
| 70°   | 515.6  | 577.0  | 547.8  | 461.0  | 389.9  | 344.2  | 317.3  | 303.8  | 299.3  | 298.6  | 294.8  |
| 72.5° | 427.3  | 465.5  | 443.8  | 374.9  | 324.0  | 283.6  | 265.7  | 251.4  | 246.2  | 247.7  | 245.4  |
| 75°   | 329.3  | 361.4  | 348.0  | 297.8  | 253.7  | 226.7  | 210.3  | 201.3  | 196.8  | 199.1  | 196.1  |
| 77.5° | 251.4  | 273.9  | 260.4  | 222.3  | 193.8  | 173.6  | 160.9  | 154.9  | 150.4  | 150.4  | 148.9  |
| 80°   | 178.8  | 190.8  | 184.1  | 163.1  | 140.7  | 124.2  | 114.5  | 110.8  | 108.5  | 107.8  | 107.0  |
| 82.5° | 114.5  | 124.2  | 116.0  | 103.3  | 89.8   | 81.6   | 77.1   | 71.8   | 70.3   | 71.1   | 70.3   |
| 85°   | 64.4   | 68.1   | 65.1   | 56.1   | 50.1   | 45.6   | 42.7   | 40.4   | 38.9   | 39.7   | 38.2   |
| 87.5° | 27.7   | 28.4   | 26.2   | 23.2   | 21.7   | 19.5   | 19.5   | 18.0   | 16.5   | 16.5   | 15.7   |
| 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: P242475

CATALOG NUMBER: S123DRP-S1165D840-X4F0-XX-UDD-A-W

**CANDELA DISTRIBUTION (continued):**

|       | 110°   | 115°   | 120°   | 125°   | 130°   | 135°   | 140°   | 145°   | 150°   | 155°   | 160°   |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0°    | 1544.5 | 1544.5 | 1544.5 | 1544.5 | 1544.5 | 1544.5 | 1544.5 | 1544.5 | 1544.5 | 1544.5 | 1544.5 |
| 2.5°  | 1512.4 | 1507.1 | 1499.6 | 1488.4 | 1479.4 | 1465.2 | 1465.2 | 1467.5 | 1467.5 | 1466.7 | 1465.2 |
| 5°    | 1472.7 | 1461.5 | 1448.0 | 1432.3 | 1415.8 | 1399.4 | 1396.4 | 1390.4 | 1385.9 | 1382.9 | 1379.2 |
| 7.5°  | 1432.3 | 1413.6 | 1394.9 | 1373.2 | 1354.5 | 1338.7 | 1327.5 | 1317.8 | 1311.8 | 1305.1 | 1299.8 |
| 10°   | 1391.1 | 1366.4 | 1343.2 | 1320.0 | 1294.6 | 1274.4 | 1261.7 | 1252.7 | 1246.0 | 1240.0 | 1237.0 |
| 12.5° | 1342.5 | 1313.3 | 1287.1 | 1265.4 | 1237.0 | 1216.0 | 1204.0 | 1201.1 | 1192.8 | 1178.6 | 1171.1 |
| 15°   | 1295.3 | 1269.1 | 1238.5 | 1204.8 | 1191.3 | 1165.9 | 1151.7 | 1144.9 | 1140.4 | 1130.7 | 1127.7 |
| 17.5° | 1256.4 | 1221.3 | 1186.1 | 1161.4 | 1136.7 | 1116.5 | 1108.3 | 1099.3 | 1093.3 | 1084.3 | 1082.1 |
| 20°   | 1207.8 | 1177.1 | 1145.7 | 1118.7 | 1092.5 | 1070.1 | 1063.4 | 1057.4 | 1051.4 | 1047.6 | 1044.7 |
| 22.5° | 1158.4 | 1127.7 | 1103.0 | 1078.3 | 1049.9 | 1037.2 | 1029.7 | 1023.0 | 1019.2 | 1017.0 | 1014.0 |
| 25°   | 1112.7 | 1085.8 | 1056.6 | 1034.2 | 1011.7 | 1002.0 | 997.5  | 993.8  | 990.8  | 987.0  | 986.3  |
| 27.5° | 1072.3 | 1042.4 | 1017.7 | 996.0  | 979.5  | 971.3  | 966.1  | 963.8  | 963.8  | 965.3  | 966.1  |
| 30°   | 1025.9 | 999.0  | 979.5  | 961.6  | 946.6  | 939.1  | 938.4  | 938.4  | 941.4  | 942.1  | 943.6  |
| 32.5° | 983.3  | 962.3  | 942.9  | 925.7  | 915.2  | 910.7  | 914.4  | 914.4  | 916.7  | 918.9  | 921.9  |
| 35°   | 942.1  | 922.7  | 907.7  | 892.7  | 883.0  | 885.3  | 886.8  | 888.3  | 892.0  | 896.5  | 899.5  |
| 37.5° | 903.2  | 885.3  | 869.5  | 857.6  | 851.6  | 856.1  | 859.8  | 862.8  | 867.3  | 871.0  | 874.0  |
| 40°   | 860.6  | 847.8  | 832.9  | 822.4  | 823.9  | 826.1  | 829.1  | 832.9  | 836.6  | 838.9  | 841.9  |
| 42.5° | 820.9  | 807.4  | 797.0  | 788.7  | 791.0  | 794.0  | 795.5  | 797.0  | 801.4  | 805.9  | 807.4  |
| 45°   | 780.5  | 770.0  | 759.5  | 754.3  | 755.8  | 757.3  | 758.8  | 761.0  | 764.8  | 767.8  | 768.5  |
| 47.5° | 734.8  | 727.4  | 720.6  | 714.6  | 717.6  | 716.9  | 719.1  | 723.6  | 725.1  | 726.6  | 731.1  |
| 50°   | 691.4  | 684.7  | 676.5  | 675.0  | 675.0  | 675.0  | 675.7  | 681.7  | 681.7  | 684.7  | 687.7  |
| 52.5° | 643.6  | 639.8  | 635.3  | 632.3  | 630.8  | 630.8  | 634.6  | 636.8  | 638.3  | 642.8  | 645.8  |
| 55°   | 596.4  | 591.9  | 587.4  | 585.2  | 583.7  | 585.2  | 591.2  | 592.7  | 596.4  | 598.7  | 600.9  |
| 57.5° | 547.0  | 544.0  | 540.3  | 538.8  | 538.8  | 539.5  | 544.0  | 547.8  | 548.5  | 556.0  | 559.0  |
| 60°   | 498.4  | 493.1  | 490.1  | 490.1  | 488.7  | 495.4  | 493.9  | 501.4  | 502.9  | 507.4  | 512.6  |
| 62.5° | 448.2  | 440.8  | 440.0  | 440.0  | 443.0  | 443.8  | 446.7  | 449.0  | 453.5  | 459.5  | 463.2  |
| 65°   | 393.6  | 389.9  | 395.1  | 394.4  | 392.9  | 397.4  | 397.4  | 401.1  | 405.6  | 410.8  | 419.1  |
| 67.5° | 342.7  | 339.7  | 341.2  | 340.5  | 342.7  | 345.7  | 348.0  | 351.0  | 356.2  | 362.2  | 367.4  |
| 70°   | 291.1  | 293.3  | 289.6  | 292.6  | 294.8  | 295.6  | 297.1  | 301.6  | 307.6  | 311.3  | 317.3  |
| 72.5° | 241.0  | 240.2  | 241.7  | 242.5  | 244.7  | 246.2  | 247.7  | 252.9  | 259.7  | 262.7  | 267.1  |
| 75°   | 193.1  | 192.3  | 194.6  | 194.6  | 198.3  | 199.8  | 201.3  | 203.5  | 209.5  | 214.0  | 217.8  |
| 77.5° | 149.7  | 150.4  | 149.7  | 152.7  | 151.2  | 151.9  | 156.4  | 158.6  | 159.4  | 169.1  | 170.6  |
| 80°   | 106.3  | 107.8  | 108.5  | 109.3  | 110.0  | 108.5  | 113.7  | 116.0  | 116.0  | 121.2  | 125.0  |
| 82.5° | 68.8   | 69.6   | 71.8   | 72.6   | 72.6   | 74.8   | 74.1   | 75.6   | 77.8   | 79.3   | 84.6   |
| 85°   | 38.2   | 40.4   | 41.2   | 40.4   | 41.2   | 39.7   | 41.9   | 42.7   | 43.4   | 43.4   | 43.4   |
| 87.5° | 15.0   | 15.7   | 15.0   | 15.7   | 15.0   | 15.7   | 15.7   | 14.2   | 14.2   | 16.5   | 13.5   |
| 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: P242475

CATALOG NUMBER: S123DRP-S1165D840-X4F0-XX-UDD-A-W

**CANDELA DISTRIBUTION (continued):**

|       | 165°   | 170°   | 175°   | 180°   |
|-------|--------|--------|--------|--------|
| 0°    | 1544.5 | 1544.5 | 1544.5 | 1544.5 |
| 2.5°  | 1460.0 | 1459.2 | 1464.5 | 1460.7 |
| 5°    | 1374.7 | 1376.9 | 1369.4 | 1369.4 |
| 7.5°  | 1297.6 | 1294.6 | 1295.3 | 1290.1 |
| 10°   | 1228.0 | 1223.5 | 1222.0 | 1222.8 |
| 12.5° | 1170.4 | 1170.4 | 1158.4 | 1158.4 |
| 15°   | 1127.7 | 1113.5 | 1112.0 | 1116.5 |
| 17.5° | 1080.6 | 1072.3 | 1073.1 | 1071.6 |
| 20°   | 1044.7 | 1040.2 | 1039.4 | 1034.2 |
| 22.5° | 1011.7 | 1011.0 | 1011.7 | 1005.7 |
| 25°   | 985.5  | 989.3  | 986.3  | 986.3  |
| 27.5° | 967.6  | 967.6  | 965.3  | 965.3  |
| 30°   | 946.6  | 945.9  | 947.4  | 947.4  |
| 32.5° | 925.7  | 927.2  | 927.2  | 927.9  |
| 35°   | 904.0  | 904.7  | 907.0  | 905.5  |
| 37.5° | 875.5  | 879.3  | 878.5  | 880.0  |
| 40°   | 842.6  | 844.9  | 844.1  | 844.1  |
| 42.5° | 808.9  | 810.4  | 808.2  | 806.7  |
| 45°   | 771.5  | 770.0  | 772.3  | 769.3  |
| 47.5° | 730.4  | 731.1  | 731.9  | 734.8  |
| 50°   | 689.2  | 693.7  | 693.7  | 692.9  |
| 52.5° | 648.8  | 650.3  | 654.0  | 654.0  |
| 55°   | 606.9  | 608.4  | 609.9  | 610.6  |
| 57.5° | 564.2  | 563.5  | 566.5  | 567.2  |
| 60°   | 518.6  | 518.6  | 524.6  | 526.8  |
| 62.5° | 469.9  | 472.9  | 478.9  | 474.4  |
| 65°   | 422.8  | 428.8  | 428.0  | 431.0  |
| 67.5° | 373.4  | 377.2  | 383.1  | 383.1  |
| 70°   | 323.3  | 327.0  | 330.0  | 332.3  |
| 72.5° | 274.6  | 276.1  | 284.4  | 279.9  |
| 75°   | 223.0  | 228.2  | 232.7  | 230.5  |
| 77.5° | 173.6  | 180.3  | 181.8  | 179.6  |
| 80°   | 130.2  | 129.5  | 133.9  | 133.2  |
| 82.5° | 86.8   | 86.1   | 87.6   | 88.3   |
| 85°   | 46.4   | 48.6   | 45.6   | 44.9   |
| 87.5° | 13.5   | 13.5   | 12.7   | 12.0   |
| 90°   | 0.0    | 0.0    | 0.0    | 0.0    |

TEST NUMBER: P242475  
 CATALOG NUMBER: S123DRP-S1165D840-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 | 20.56            | 22.12 | 20.93 | 22.43 | 22.75 | 21.12          | 22.67 | 21.48 | 22.99 | 23.30 |
|                 | 3H   | 22.11            | 23.51 | 22.49 | 23.84 | 24.20 | 22.45          | 23.85 | 22.83 | 24.17 | 24.54 |
|                 | 4H   | 22.68            | 23.99 | 23.07 | 24.34 | 24.72 | 22.91          | 24.22 | 23.31 | 24.57 | 24.95 |
|                 | 6H   | 23.07            | 24.29 | 23.49 | 24.66 | 25.05 | 23.20          | 24.42 | 23.61 | 24.78 | 25.18 |
|                 | 8H   | 23.19            | 24.34 | 23.61 | 24.73 | 25.13 | 23.28          | 24.43 | 23.70 | 24.82 | 25.22 |
|                 | 12H  | 23.26            | 24.36 | 23.69 | 24.75 | 25.17 | 23.31          | 24.42 | 23.74 | 24.80 | 25.23 |
| 4H              | 2H   | 21.72            | 23.03 | 22.11 | 23.38 | 23.75 | 21.88          | 23.19 | 22.28 | 23.54 | 23.92 |
|                 | 3H   | 23.31            | 24.40 | 23.72 | 24.80 | 25.20 | 23.68          | 24.78 | 24.09 | 25.18 | 25.58 |
|                 | 4H   | 23.93            | 24.92 | 24.36 | 25.33 | 25.77 | 24.25          | 25.24 | 24.68 | 25.65 | 26.09 |
|                 | 6H   | 24.40            | 25.26 | 24.86 | 25.70 | 26.16 | 24.62          | 25.47 | 25.07 | 25.92 | 26.37 |
|                 | 8H   | 24.54            | 25.34 | 25.00 | 25.79 | 26.25 | 24.71          | 25.51 | 25.17 | 25.95 | 26.42 |
|                 | 12H  | 24.64            | 25.35 | 25.12 | 25.83 | 26.30 | 24.76          | 25.48 | 25.24 | 25.95 | 26.42 |
| 8H              | 4H   | 24.41            | 25.22 | 24.88 | 25.66 | 26.13 | 24.56          | 25.36 | 25.02 | 25.80 | 26.27 |
|                 | 6H   | 24.96            | 25.63 | 25.46 | 26.12 | 26.59 | 25.07          | 25.73 | 25.56 | 26.22 | 26.70 |
|                 | 8H   | 25.15            | 25.75 | 25.66 | 26.26 | 26.74 | 25.21          | 25.81 | 25.72 | 26.32 | 26.80 |
|                 | 12H  | 25.30            | 25.82 | 25.80 | 26.31 | 26.88 | 25.31          | 25.83 | 25.82 | 26.33 | 26.89 |
| 12H             | 4H   | 24.47            | 25.19 | 24.95 | 25.66 | 26.13 | 24.57          | 25.29 | 25.05 | 25.76 | 26.23 |
|                 | 6H   | 25.04            | 25.64 | 25.55 | 26.14 | 26.63 | 25.10          | 25.70 | 25.61 | 26.20 | 26.69 |
|                 | 8H   | 25.28            | 25.80 | 25.79 | 26.30 | 26.86 | 25.30          | 25.83 | 25.81 | 26.32 | 26.88 |