

LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-State Lighting Products

Test Report Prepared for  
Cooper Lighting Solutions

Brand: NEO-RAY

Report Number: P832472

Luminaire Tested: S123RDP-S560D930-4F0-1E-UDD-G

Issue Date: 05/03/2024

Tested By:

Approved By:



NVLAP Lab Code: 200050-0

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**Test Information**

Test Method: LM-79-2019  
 Report Number: P832472  
 Test Lab: INNOVATION CENTER  
 Issue Date: 05/03/2024  
 Manufacturer: COOPER LIGHTING SOLUTIONS  
 Product Line: NEO-RAY  
 Catalog Number: S123RDP-S560D930-4F0-1E-UDD-G  
 Description: DEFINE 3 DIRECT PENDANT LED LUMINAIRE  
 DOWNLIGHT 560 LUMENS PER FOOT, GRAZE OPTIC

Light Source: -  
 Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
 Luminaire Lumens: 1974.2 lumens  
 Efficiency: N/A  
 Efficacy: 100.7 lumens/watt  
 Spacing Criteria (0/90/45): 0.55 / 1.17 / 0.8  
 Luminous Opening: Rectangular (W 4' x L: 0.25' x H: 0')  
 CIE Type: Direct

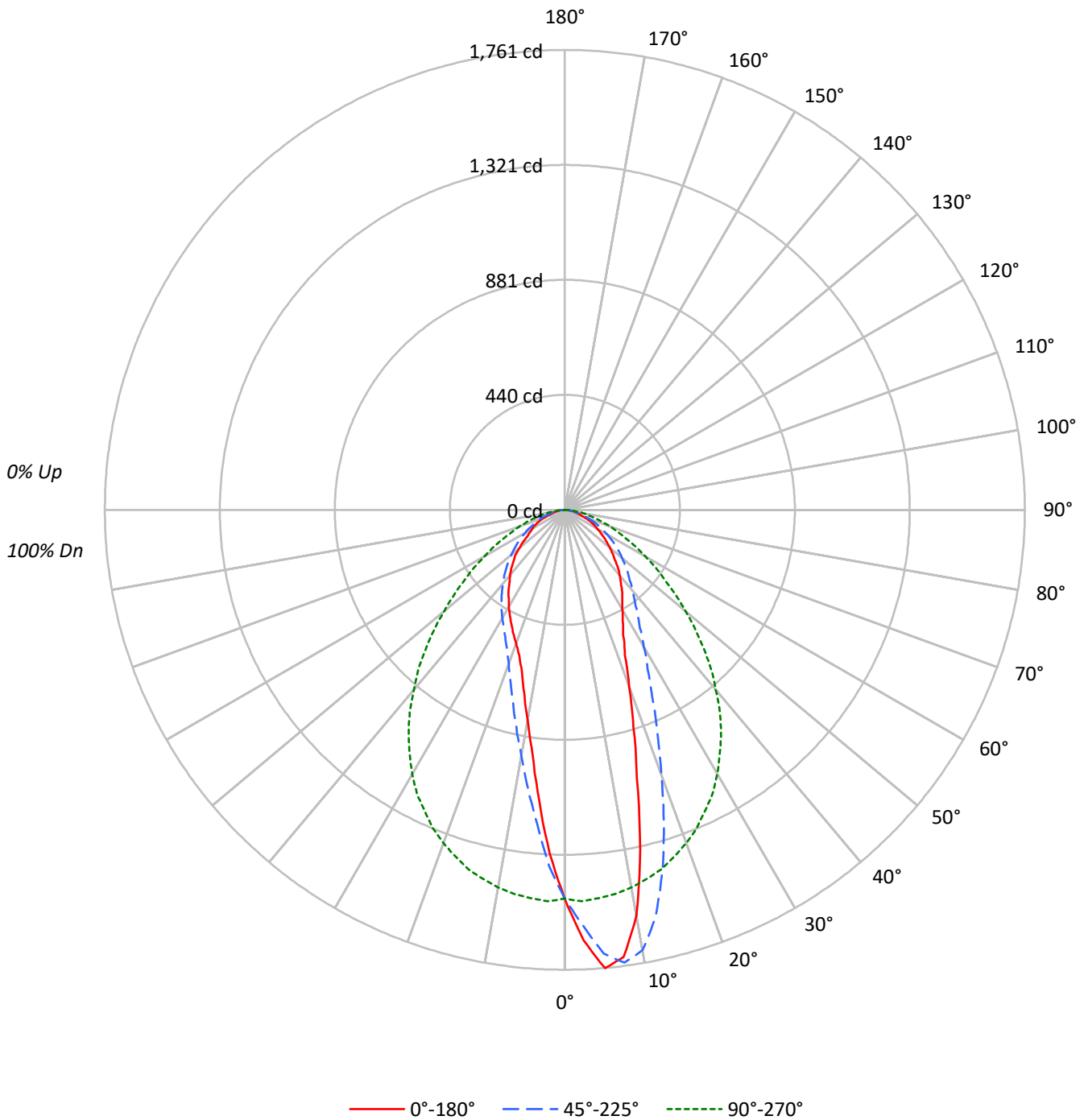
Input Watts (W): 19.6  
 Input Voltage (V): 120  
 Input Current (Ain): NR  
 Voltage Rise (V): NR  
 Power Factor: NR  
 Total Harmonic Distortion (THDi): NR  
 Frequency (hertz): 60  
 Stabilization Time: NR  
 Operation Time: NR  
 Ambient Temperature (°C): NR  
 Test Distance: 24 FT

| Measurement and Test Equipment |                       |                  |                      |
|--------------------------------|-----------------------|------------------|----------------------|
| Instrument                     | Identification Number | Calibration Date | Calibration Due Date |
| Photometer                     | P3                    | 10/30/2015       | 4/30/2016            |
| Power Meter                    | IN0214                | 1/12/2016        | 1/12/2017            |
| AC Power Source                | IN0062                | 1/12/2016        | 1/12/2017            |
| DC Power Supply                | --                    | --               | --                   |
| Room Thermometer               | IN0145                | 1/13/2016        | 1/13/2017            |

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### 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 | 0  |   |
| RCR |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |    |    |    |   |
| 0   | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 | 111 | 111 | 111 | 106 | 106 | 106 | 102 | 102 | 102 | 100 |    |    |    |   |
| 1   | 111 | 107 | 103 | 100 | 108 | 104 | 101 | 98  | 100 | 97  | 95  | 96  | 94  | 92  | 93  | 91  | 89  | 87  |    |    |    |   |
| 2   | 102 | 95  | 89  | 84  | 100 | 93  | 88  | 83  | 90  | 85  | 81  | 87  | 83  | 80  | 84  | 81  | 78  | 76  |    |    |    |   |
| 3   | 94  | 85  | 78  | 73  | 92  | 84  | 77  | 72  | 81  | 75  | 71  | 78  | 74  | 70  | 76  | 72  | 69  | 67  |    |    |    |   |
| 4   | 88  | 77  | 69  | 64  | 85  | 76  | 69  | 63  | 73  | 67  | 62  | 71  | 66  | 62  | 69  | 65  | 61  | 59  |    |    |    |   |
| 5   | 82  | 70  | 62  | 56  | 80  | 69  | 62  | 56  | 67  | 61  | 56  | 65  | 60  | 55  | 63  | 58  | 54  | 53  |    |    |    |   |
| 6   | 76  | 64  | 56  | 51  | 74  | 63  | 56  | 50  | 62  | 55  | 50  | 60  | 54  | 50  | 59  | 53  | 49  | 47  |    |    |    |   |
| 7   | 71  | 59  | 51  | 46  | 70  | 58  | 51  | 46  | 57  | 50  | 45  | 56  | 50  | 45  | 54  | 49  | 45  | 43  |    |    |    |   |
| 8   | 67  | 55  | 47  | 42  | 65  | 54  | 47  | 42  | 53  | 46  | 41  | 52  | 46  | 41  | 51  | 45  | 41  | 39  |    |    |    |   |
| 9   | 63  | 51  | 43  | 38  | 62  | 50  | 43  | 38  | 49  | 43  | 38  | 48  | 42  | 38  | 47  | 42  | 38  | 36  |    |    |    |   |
| 10  | 60  | 47  | 40  | 35  | 58  | 47  | 40  | 35  | 46  | 40  | 35  | 45  | 39  | 35  | 44  | 39  | 35  | 33  |    |    |    |   |

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

|     | 0°    | 45°   | 90°   | 135°  | 180°  |
|-----|-------|-------|-------|-------|-------|
| 0°  | 16027 | 16027 | 16027 | 16027 | 16027 |
| 5°  | 19031 | 18425 | 16129 | 13038 | 12105 |
| 10° | 17243 | 18714 | 16048 | 10447 | 8961  |
| 15° | 11871 | 16046 | 15879 | 8538  | 7090  |
| 20° | 8259  | 12354 | 15560 | 7199  | 6231  |
| 25° | 6293  | 9415  | 15096 | 6399  | 5742  |
| 30° | 5479  | 7527  | 14516 | 5941  | 5320  |
| 35° | 5030  | 6349  | 13694 | 5556  | 4934  |
| 40° | 4589  | 5670  | 12619 | 5176  | 4581  |
| 45° | 4145  | 5186  | 11459 | 4818  | 4229  |
| 50° | 3763  | 4784  | 10091 | 4468  | 3793  |
| 55° | 3402  | 4393  | 8777  | 4125  | 3254  |
| 60° | 3048  | 3996  | 7623  | 3746  | 3076  |
| 65° | 2814  | 3545  | 6561  | 3367  | 2909  |
| 70° | 2288  | 3065  | 5725  | 3046  | 2364  |
| 75° | 2005  | 2437  | 4849  | 2524  | 2084  |
| 80° | 1816  | 2064  | 3973  | 2120  | 1965  |
| 85° | 1655  | 1815  | 3013  | 1927  | 1815  |

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 80°  
 Vertical Angle: 45°  
 Luminance: 12091 cd/sqm

TEST NUMBER: P832472  
 CATALOG NUMBER: S123RDP-S560D930-4F0-1E-UDD-G

**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 135.7  | 6.9       |
| 10°-20°   | 314.1  | 15.9      |
| 20°-30°   | 360.3  | 18.3      |
| 30°-40°   | 355.2  | 18.0      |
| 40°-50°   | 313.2  | 15.9      |
| 50°-60°   | 241.0  | 12.2      |
| 60°-70°   | 158.4  | 8.0       |
| 70°-80°   | 76.9   | 3.9       |
| 80°-90°   | 19.4   | 1.0       |
| 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°    | 810.1  | 41.0      |
| 0°-40°    | 1165.3 | 59.0      |
| 0°-60°    | 1719.5 | 87.1      |
| 0°-90°    | 1974.2 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 1974.2 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 45°  | 90°  | 135° | 180° | Flux |
|-----|------|------|------|------|------|------|
| 0°  | 1489 | 1489 | 1489 | 1489 | 1489 |      |
| 5°  | 1761 | 1705 | 1493 | 1207 | 1120 | 161  |
| 15° | 1065 | 1440 | 1425 | 766  | 636  | 301  |
| 25° | 530  | 793  | 1271 | 539  | 484  | 250  |
| 35° | 383  | 483  | 1042 | 423  | 376  | 239  |
| 45° | 272  | 341  | 753  | 316  | 278  | 211  |
| 55° | 181  | 234  | 468  | 220  | 173  | 163  |
| 65° | 110  | 139  | 258  | 132  | 114  | 108  |
| 75° | 48   | 59   | 117  | 61   | 50   | 52   |
| 85° | 13   | 15   | 24   | 16   | 15   | 15   |
| 90° | 0    | 0    | 0    | 0    | 0    |      |

TEST NUMBER: P832472

CATALOG NUMBER: S123RDP-S560D930-4F0-1E-UDD-G

**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 5°     | 10°    | 15°    | 20°    | 25°    | 30°    | 35°    | 40°    | 45°    | 50°    |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0°    | 1489.0 | 1489.0 | 1489.0 | 1489.0 | 1489.0 | 1489.0 | 1489.0 | 1489.0 | 1489.0 | 1489.0 | 1489.0 |
| 2.5°  | 1650.2 | 1645.0 | 1639.8 | 1638.3 | 1636.8 | 1631.9 | 1627.0 | 1616.0 | 1605.0 | 1593.7 | 1582.4 |
| 5°    | 1761.3 | 1761.9 | 1762.5 | 1761.0 | 1759.5 | 1753.1 | 1746.7 | 1733.2 | 1719.8 | 1705.2 | 1690.5 |
| 7.5°  | 1727.1 | 1736.9 | 1746.7 | 1748.5 | 1750.3 | 1755.2 | 1760.1 | 1757.0 | 1754.0 | 1748.5 | 1743.0 |
| 10°   | 1577.6 | 1576.9 | 1576.3 | 1587.3 | 1598.3 | 1631.0 | 1663.6 | 1680.4 | 1697.2 | 1712.2 | 1727.1 |
| 12.5° | 1333.4 | 1334.3 | 1335.2 | 1371.2 | 1407.2 | 1438.1 | 1468.9 | 1511.6 | 1554.4 | 1600.5 | 1646.5 |
| 15°   | 1065.3 | 1080.3 | 1095.3 | 1127.3 | 1159.4 | 1205.8 | 1252.2 | 1309.5 | 1366.9 | 1439.9 | 1512.8 |
| 17.5° | 874.9  | 881.3  | 887.7  | 918.5  | 949.3  | 993.3  | 1037.3 | 1102.3 | 1167.3 | 1261.3 | 1355.3 |
| 20°   | 721.0  | 726.8  | 732.6  | 754.9  | 777.2  | 819.3  | 861.4  | 923.4  | 985.4  | 1078.5 | 1171.6 |
| 22.5° | 602.0  | 613.3  | 624.6  | 639.5  | 654.5  | 685.0  | 715.5  | 778.7  | 841.9  | 926.8  | 1011.6 |
| 25°   | 529.9  | 535.1  | 540.3  | 553.1  | 565.9  | 595.2  | 624.6  | 666.4  | 708.2  | 792.7  | 877.3  |
| 27.5° | 481.1  | 482.6  | 484.1  | 493.6  | 503.1  | 522.0  | 540.9  | 579.7  | 618.4  | 688.0  | 757.6  |
| 30°   | 440.8  | 443.5  | 446.3  | 453.6  | 460.9  | 474.7  | 488.4  | 515.9  | 543.4  | 605.6  | 667.9  |
| 32.5° | 409.7  | 411.2  | 412.7  | 418.8  | 424.9  | 435.0  | 445.1  | 466.7  | 488.4  | 536.0  | 583.6  |
| 35°   | 382.8  | 383.1  | 383.4  | 388.0  | 392.6  | 402.3  | 412.1  | 430.1  | 448.1  | 483.2  | 518.3  |
| 37.5° | 352.3  | 354.4  | 356.5  | 359.9  | 363.3  | 371.8  | 380.3  | 395.0  | 409.7  | 438.7  | 467.7  |
| 40°   | 326.6  | 328.5  | 330.3  | 334.3  | 338.2  | 344.9  | 351.7  | 365.1  | 378.5  | 403.5  | 428.6  |
| 42.5° | 301.0  | 302.2  | 303.4  | 307.4  | 311.4  | 319.6  | 327.8  | 338.5  | 349.2  | 370.0  | 390.7  |
| 45°   | 272.3  | 275.3  | 278.4  | 282.7  | 286.9  | 294.0  | 301.0  | 312.0  | 323.0  | 340.7  | 358.4  |
| 47.5° | 248.5  | 250.0  | 251.5  | 255.2  | 258.9  | 267.4  | 276.0  | 285.7  | 295.5  | 312.0  | 328.5  |
| 50°   | 224.7  | 225.3  | 225.9  | 229.2  | 232.6  | 240.2  | 247.9  | 259.2  | 270.5  | 285.7  | 301.0  |
| 52.5° | 202.1  | 203.6  | 205.1  | 208.5  | 211.8  | 217.0  | 222.2  | 233.8  | 245.4  | 260.4  | 275.3  |
| 55°   | 181.3  | 182.2  | 183.2  | 185.6  | 188.0  | 194.1  | 200.2  | 210.3  | 220.4  | 234.1  | 247.9  |
| 57.5° | 161.8  | 163.0  | 164.2  | 166.1  | 167.9  | 173.4  | 178.9  | 187.7  | 196.6  | 210.3  | 224.1  |
| 60°   | 141.6  | 143.2  | 144.7  | 146.8  | 149.0  | 153.2  | 157.5  | 165.4  | 173.4  | 185.6  | 197.8  |
| 62.5° | 127.0  | 127.3  | 127.6  | 129.4  | 131.3  | 134.3  | 137.4  | 143.8  | 150.2  | 162.4  | 174.6  |
| 65°   | 110.5  | 111.4  | 112.3  | 113.2  | 114.2  | 116.6  | 119.0  | 124.5  | 130.0  | 139.2  | 148.4  |
| 67.5° | 93.4   | 94.3   | 95.2   | 96.8   | 98.3   | 100.4  | 102.6  | 106.2  | 109.9  | 118.4  | 127.0  |
| 70°   | 72.7   | 72.7   | 72.7   | 75.1   | 77.5   | 81.2   | 84.9   | 87.6   | 90.4   | 97.4   | 104.4  |
| 72.5° | 59.2   | 59.5   | 59.8   | 60.1   | 60.4   | 62.6   | 64.7   | 69.3   | 73.9   | 78.1   | 82.4   |
| 75°   | 48.2   | 48.5   | 48.8   | 49.1   | 49.5   | 50.1   | 50.7   | 52.2   | 53.7   | 58.6   | 63.5   |
| 77.5° | 38.5   | 38.8   | 39.1   | 39.4   | 39.7   | 40.3   | 40.9   | 41.5   | 42.1   | 44.0   | 45.8   |
| 80°   | 29.3   | 29.6   | 29.9   | 30.2   | 30.5   | 30.8   | 31.1   | 31.7   | 32.4   | 33.3   | 34.2   |
| 82.5° | 21.4   | 21.4   | 21.4   | 21.4   | 21.4   | 22.0   | 22.6   | 22.6   | 22.6   | 23.2   | 23.8   |
| 85°   | 13.4   | 13.4   | 13.4   | 13.7   | 14.0   | 14.0   | 14.0   | 14.3   | 14.7   | 14.7   | 14.7   |
| 87.5° | 6.1    | 5.8    | 5.5    | 5.8    | 6.1    | 6.1    | 6.1    | 6.4    | 6.7    | 6.7    | 6.7    |
| 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: P832472

CATALOG NUMBER: S123RDP-S560D930-4F0-1E-UDD-G

**CANDELA DISTRIBUTION (continued):**

|       | 55°    | 60°    | 65°    | 70°    | 75°    | 80°    | 85°    | 90°    | 95°    | 100°   | 105°   |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0°    | 1489.0 | 1489.0 | 1489.0 | 1489.0 | 1489.0 | 1489.0 | 1489.0 | 1489.0 | 1489.0 | 1489.0 | 1489.0 |
| 2.5°  | 1580.9 | 1579.4 | 1564.7 | 1550.1 | 1535.7 | 1521.4 | 1510.7 | 1500.0 | 1482.0 | 1464.0 | 1452.7 |
| 5°    | 1678.9 | 1667.3 | 1644.1 | 1620.9 | 1586.1 | 1551.3 | 1522.0 | 1492.7 | 1455.5 | 1418.2 | 1387.1 |
| 7.5°  | 1733.5 | 1724.1 | 1696.0 | 1667.9 | 1621.8 | 1575.7 | 1529.9 | 1484.1 | 1429.2 | 1374.3 | 1327.2 |
| 10°   | 1735.1 | 1743.0 | 1719.8 | 1696.6 | 1644.7 | 1592.8 | 1530.5 | 1468.3 | 1394.4 | 1320.5 | 1259.8 |
| 12.5° | 1680.7 | 1714.9 | 1710.0 | 1705.2 | 1652.3 | 1599.5 | 1523.8 | 1448.1 | 1357.5 | 1266.8 | 1190.8 |
| 15°   | 1579.1 | 1645.3 | 1664.9 | 1684.4 | 1640.7 | 1597.1 | 1511.0 | 1424.9 | 1318.4 | 1211.9 | 1124.6 |
| 17.5° | 1448.1 | 1540.9 | 1592.5 | 1644.1 | 1612.4 | 1580.6 | 1486.3 | 1392.0 | 1272.0 | 1152.0 | 1057.1 |
| 20°   | 1293.1 | 1414.6 | 1495.4 | 1576.3 | 1564.7 | 1553.1 | 1455.8 | 1358.4 | 1229.0 | 1099.5 | 996.7  |
| 22.5° | 1139.8 | 1268.0 | 1379.8 | 1491.5 | 1503.4 | 1515.3 | 1417.0 | 1318.7 | 1177.1 | 1035.4 | 930.7  |
| 25°   | 1007.6 | 1138.0 | 1271.1 | 1404.2 | 1431.0 | 1457.9 | 1364.5 | 1271.1 | 1124.3 | 977.4  | 873.3  |
| 27.5° | 881.6  | 1005.5 | 1152.0 | 1298.6 | 1347.4 | 1396.2 | 1310.8 | 1225.3 | 1072.4 | 919.4  | 815.6  |
| 30°   | 778.7  | 889.5  | 1039.1 | 1188.7 | 1256.7 | 1324.8 | 1246.4 | 1167.9 | 1016.2 | 864.5  | 762.8  |
| 32.5° | 682.9  | 782.1  | 932.2  | 1082.4 | 1161.5 | 1240.6 | 1172.8 | 1105.0 | 959.1  | 813.2  | 712.8  |
| 35°   | 607.2  | 696.0  | 836.1  | 976.2  | 1064.7 | 1153.3 | 1097.7 | 1042.1 | 899.6  | 757.0  | 662.1  |
| 37.5° | 542.1  | 616.6  | 748.2  | 879.7  | 973.8  | 1067.8 | 1021.4 | 975.0  | 841.0  | 707.0  | 617.2  |
| 40°   | 488.4  | 548.2  | 670.6  | 793.1  | 885.2  | 977.4  | 937.7  | 898.1  | 778.1  | 658.1  | 574.2  |
| 42.5° | 442.3  | 493.9  | 603.8  | 713.7  | 798.2  | 882.8  | 856.5  | 830.3  | 721.6  | 613.0  | 535.1  |
| 45°   | 401.7  | 445.1  | 541.8  | 638.6  | 716.4  | 794.3  | 773.5  | 752.8  | 659.0  | 565.3  | 493.9  |
| 47.5° | 365.7  | 402.9  | 489.3  | 575.7  | 645.6  | 715.5  | 696.3  | 677.1  | 599.5  | 522.0  | 457.0  |
| 50°   | 332.7  | 364.5  | 436.5  | 508.6  | 571.4  | 634.3  | 618.4  | 602.6  | 538.5  | 474.4  | 418.2  |
| 52.5° | 301.6  | 327.8  | 392.6  | 457.3  | 507.9  | 558.6  | 546.4  | 534.2  | 484.7  | 435.3  | 384.3  |
| 55°   | 272.0  | 296.1  | 350.7  | 405.4  | 448.7  | 492.1  | 479.9  | 467.7  | 429.2  | 390.7  | 345.9  |
| 57.5° | 245.1  | 266.2  | 310.4  | 354.7  | 389.2  | 423.7  | 417.9  | 412.1  | 380.0  | 348.0  | 311.1  |
| 60°   | 216.7  | 235.7  | 273.8  | 312.0  | 339.7  | 367.5  | 360.8  | 354.1  | 331.2  | 308.3  | 276.6  |
| 62.5° | 191.4  | 208.2  | 238.7  | 269.2  | 291.8  | 314.4  | 309.5  | 304.6  | 287.2  | 269.8  | 243.6  |
| 65°   | 164.8  | 181.3  | 206.0  | 230.8  | 248.5  | 266.2  | 261.9  | 257.6  | 244.5  | 231.4  | 210.3  |
| 67.5° | 140.7  | 154.5  | 175.8  | 197.2  | 209.1  | 221.0  | 218.6  | 216.1  | 206.0  | 196.0  | 179.5  |
| 70°   | 116.3  | 128.2  | 145.9  | 163.6  | 171.9  | 180.1  | 181.0  | 181.9  | 172.8  | 163.6  | 151.4  |
| 72.5° | 91.9   | 101.3  | 117.8  | 134.3  | 140.7  | 147.1  | 146.8  | 146.5  | 141.0  | 135.5  | 124.5  |
| 75°   | 70.5   | 77.5   | 90.4   | 103.2  | 108.7  | 114.2  | 115.4  | 116.6  | 111.4  | 106.2  | 100.1  |
| 77.5° | 50.7   | 55.6   | 65.3   | 75.1   | 81.2   | 87.3   | 87.9   | 88.5   | 86.1   | 83.6   | 77.8   |
| 80°   | 35.7   | 37.2   | 43.3   | 49.5   | 55.9   | 62.3   | 63.2   | 64.1   | 61.7   | 59.2   | 55.6   |
| 82.5° | 24.7   | 25.6   | 27.8   | 29.9   | 35.1   | 40.3   | 41.5   | 42.7   | 41.5   | 40.3   | 36.3   |
| 85°   | 15.0   | 15.3   | 16.2   | 17.1   | 19.5   | 22.0   | 23.2   | 24.4   | 23.8   | 23.2   | 21.1   |
| 87.5° | 6.7    | 6.7    | 7.0    | 7.3    | 7.9    | 8.5    | 10.1   | 11.6   | 10.7   | 9.8    | 8.9    |
| 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: P832472

CATALOG NUMBER: S123RDP-S560D930-4F0-1E-UDD-G

**CANDELA DISTRIBUTION (continued):**

|       | 110°   | 115°   | 120°   | 125°   | 130°   | 135°   | 140°   | 145°   | 150°   | 155°   | 160°   |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0°    | 1489.0 | 1489.0 | 1489.0 | 1489.0 | 1489.0 | 1489.0 | 1489.0 | 1489.0 | 1489.0 | 1489.0 | 1489.0 |
| 2.5°  | 1441.4 | 1424.0 | 1406.6 | 1394.1 | 1381.6 | 1366.0 | 1350.4 | 1349.8 | 1349.2 | 1337.6 | 1326.0 |
| 5°    | 1355.9 | 1325.7 | 1295.5 | 1265.9 | 1236.3 | 1206.7 | 1177.1 | 1170.3 | 1163.6 | 1153.6 | 1143.5 |
| 7.5°  | 1280.2 | 1232.0 | 1183.8 | 1145.9 | 1108.1 | 1078.5 | 1048.9 | 1028.7 | 1008.6 | 993.0  | 977.4  |
| 10°   | 1199.0 | 1139.2 | 1079.4 | 1033.6 | 987.8  | 955.8  | 923.7  | 900.5  | 877.3  | 866.3  | 855.3  |
| 12.5° | 1114.8 | 1049.8 | 984.8  | 939.9  | 895.0  | 856.5  | 818.1  | 797.0  | 776.0  | 760.7  | 745.4  |
| 15°   | 1037.3 | 967.4  | 897.4  | 849.8  | 802.2  | 766.2  | 730.2  | 709.1  | 688.0  | 672.8  | 657.5  |
| 17.5° | 962.2  | 891.6  | 821.1  | 772.9  | 724.7  | 692.0  | 659.4  | 638.9  | 618.4  | 609.0  | 599.5  |
| 20°   | 893.8  | 822.7  | 751.5  | 706.1  | 660.6  | 628.5  | 596.5  | 585.5  | 574.5  | 565.6  | 556.8  |
| 22.5° | 826.0  | 757.6  | 689.3  | 645.6  | 602.0  | 578.8  | 555.6  | 546.7  | 537.9  | 531.1  | 524.4  |
| 25°   | 769.2  | 701.2  | 633.1  | 594.9  | 556.8  | 538.8  | 520.8  | 515.0  | 509.2  | 502.4  | 495.7  |
| 27.5° | 711.9  | 647.1  | 582.4  | 551.9  | 521.4  | 506.7  | 492.1  | 484.7  | 477.4  | 471.9  | 466.4  |
| 30°   | 661.2  | 601.4  | 541.5  | 516.2  | 490.8  | 478.0  | 465.2  | 457.3  | 449.3  | 444.1  | 439.0  |
| 32.5° | 612.3  | 559.2  | 506.1  | 484.4  | 462.8  | 450.3  | 437.7  | 430.1  | 422.5  | 416.4  | 410.3  |
| 35°   | 567.2  | 521.1  | 475.0  | 455.1  | 435.3  | 422.8  | 410.3  | 402.6  | 395.0  | 388.9  | 382.8  |
| 37.5° | 527.5  | 485.7  | 443.8  | 425.2  | 406.6  | 395.6  | 384.6  | 376.7  | 368.7  | 362.3  | 355.9  |
| 40°   | 490.2  | 453.3  | 416.4  | 398.4  | 380.3  | 368.4  | 356.5  | 349.5  | 342.5  | 336.7  | 330.9  |
| 42.5° | 457.3  | 423.4  | 389.5  | 371.8  | 354.1  | 342.8  | 331.5  | 323.3  | 315.0  | 311.7  | 308.3  |
| 45°   | 422.5  | 392.6  | 362.6  | 345.5  | 328.5  | 316.5  | 304.6  | 297.6  | 290.6  | 287.5  | 284.5  |
| 47.5° | 391.9  | 364.2  | 336.4  | 319.6  | 302.8  | 292.1  | 281.4  | 276.0  | 270.5  | 266.2  | 261.9  |
| 50°   | 362.0  | 335.2  | 308.3  | 292.1  | 276.0  | 266.8  | 257.6  | 250.9  | 244.2  | 241.2  | 238.1  |
| 52.5° | 333.3  | 308.9  | 284.5  | 268.0  | 251.5  | 242.7  | 233.8  | 228.0  | 222.2  | 215.8  | 209.4  |
| 55°   | 301.0  | 279.6  | 258.2  | 243.6  | 228.9  | 219.8  | 210.6  | 203.9  | 197.2  | 190.5  | 183.8  |
| 57.5° | 274.1  | 253.1  | 232.0  | 218.9  | 205.7  | 196.9  | 188.0  | 180.7  | 173.4  | 167.9  | 162.4  |
| 60°   | 244.8  | 226.5  | 208.2  | 195.4  | 182.5  | 174.0  | 165.4  | 158.4  | 151.4  | 148.7  | 145.9  |
| 62.5° | 217.3  | 200.2  | 183.2  | 171.9  | 160.6  | 152.3  | 144.1  | 139.5  | 134.9  | 133.1  | 131.3  |
| 65°   | 189.3  | 174.6  | 160.0  | 149.6  | 139.2  | 132.2  | 125.2  | 123.0  | 120.9  | 119.4  | 117.8  |
| 67.5° | 163.0  | 150.5  | 138.0  | 128.8  | 119.7  | 114.8  | 109.9  | 107.4  | 105.0  | 103.2  | 101.3  |
| 70°   | 139.2  | 128.2  | 117.2  | 109.3  | 101.3  | 96.8   | 92.2   | 90.1   | 87.9   | 84.6   | 81.2   |
| 72.5° | 113.6  | 105.0  | 96.5   | 90.4   | 84.3   | 80.3   | 76.3   | 72.0   | 67.8   | 64.7   | 61.7   |
| 75°   | 94.0   | 85.5   | 76.9   | 71.1   | 65.3   | 60.7   | 56.2   | 54.6   | 53.1   | 52.2   | 51.3   |
| 77.5° | 72.0   | 64.7   | 57.4   | 52.8   | 48.2   | 46.1   | 44.0   | 43.0   | 42.1   | 41.8   | 41.5   |
| 80°   | 51.9   | 45.8   | 39.7   | 37.2   | 34.8   | 34.2   | 33.6   | 33.0   | 32.4   | 32.1   | 31.7   |
| 82.5° | 32.4   | 29.3   | 26.3   | 25.6   | 25.0   | 24.7   | 24.4   | 24.1   | 23.8   | 23.5   | 23.2   |
| 85°   | 18.9   | 17.7   | 16.5   | 16.2   | 15.9   | 15.6   | 15.3   | 15.3   | 15.3   | 15.3   | 15.3   |
| 87.5° | 7.9    | 7.9    | 7.9    | 7.9    | 7.9    | 7.9    | 7.9    | 7.9    | 7.9    | 7.6    | 7.3    |
| 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: P832472

CATALOG NUMBER: S123RDP-S560D930-4F0-1E-UDD-G

**CANDELA DISTRIBUTION (continued):**

|       | 165°   | 170°   | 175°   | 180°   |
|-------|--------|--------|--------|--------|
| 0°    | 1489.0 | 1489.0 | 1489.0 | 1489.0 |
| 2.5°  | 1323.0 | 1319.9 | 1318.7 | 1317.5 |
| 5°    | 1134.0 | 1124.6 | 1122.4 | 1120.3 |
| 7.5°  | 973.5  | 969.5  | 956.4  | 943.2  |
| 10°   | 843.1  | 830.9  | 825.4  | 819.9  |
| 12.5° | 734.1  | 722.8  | 721.0  | 719.2  |
| 15°   | 649.6  | 641.6  | 638.9  | 636.2  |
| 17.5° | 594.0  | 588.5  | 585.2  | 581.8  |
| 20°   | 552.8  | 548.8  | 546.4  | 544.0  |
| 22.5° | 521.4  | 518.3  | 516.5  | 514.7  |
| 25°   | 491.2  | 486.6  | 485.0  | 483.5  |
| 27.5° | 462.5  | 458.5  | 457.0  | 455.4  |
| 30°   | 435.6  | 432.2  | 430.1  | 428.0  |
| 32.5° | 406.3  | 402.3  | 401.1  | 399.9  |
| 35°   | 380.3  | 377.9  | 376.7  | 375.5  |
| 37.5° | 352.9  | 349.8  | 348.0  | 346.2  |
| 40°   | 329.4  | 327.8  | 326.9  | 326.0  |
| 42.5° | 305.6  | 302.8  | 302.5  | 302.2  |
| 45°   | 281.8  | 279.0  | 278.4  | 277.8  |
| 47.5° | 259.5  | 257.0  | 256.7  | 256.4  |
| 50°   | 234.7  | 231.4  | 228.9  | 226.5  |
| 52.5° | 206.4  | 203.3  | 201.2  | 199.0  |
| 55°   | 180.4  | 177.0  | 175.2  | 173.4  |
| 57.5° | 160.9  | 159.3  | 158.4  | 157.5  |
| 60°   | 145.0  | 144.1  | 143.5  | 142.9  |
| 62.5° | 130.3  | 129.4  | 129.4  | 129.4  |
| 65°   | 116.9  | 116.0  | 115.1  | 114.2  |
| 67.5° | 99.5   | 97.7   | 97.4   | 97.1   |
| 70°   | 78.5   | 75.7   | 75.4   | 75.1   |
| 72.5° | 61.4   | 61.1   | 60.4   | 59.8   |
| 75°   | 50.7   | 50.1   | 50.1   | 50.1   |
| 77.5° | 40.9   | 40.3   | 40.3   | 40.3   |
| 80°   | 31.4   | 31.1   | 31.4   | 31.7   |
| 82.5° | 23.2   | 23.2   | 22.9   | 22.6   |
| 85°   | 15.0   | 14.7   | 14.7   | 14.7   |
| 87.5° | 7.3    | 7.3    | 7.3    | 7.3    |
| 90°   | 0.0    | 0.0    | 0.0    | 0.0    |

TEST NUMBER: P832472

CATALOG NUMBER: S123RDP-S560D930-4F0-1E-UDD-G

**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 | 14.34            | 15.80 | 14.71 | 16.11 | 16.43 | 19.01          | 20.46 | 19.37 | 20.78 | 21.09 |
|                 | 3H   | 15.61            | 16.91 | 15.99 | 17.24 | 17.60 | 20.55          | 21.85 | 20.93 | 22.18 | 22.54 |
|                 | 4H   | 16.02            | 17.24 | 16.42 | 17.59 | 17.97 | 21.07          | 22.29 | 21.47 | 22.64 | 23.02 |
|                 | 6H   | 16.32            | 17.45 | 16.74 | 17.82 | 18.21 | 21.41          | 22.53 | 21.82 | 22.90 | 23.29 |
|                 | 8H   | 16.43            | 17.50 | 16.86 | 17.89 | 18.29 | 21.50          | 22.57 | 21.93 | 22.96 | 23.36 |
|                 | 12H  | 16.50            | 17.52 | 16.93 | 17.90 | 18.33 | 21.55          | 22.58 | 21.98 | 22.96 | 23.39 |
| 4H              | 2H   | 15.14            | 16.36 | 15.54 | 16.71 | 17.09 | 19.07          | 20.29 | 19.47 | 20.64 | 21.02 |
|                 | 3H   | 16.56            | 17.57 | 16.97 | 17.97 | 18.37 | 20.78          | 21.79 | 21.19 | 22.19 | 22.59 |
|                 | 4H   | 17.03            | 17.94 | 17.47 | 18.36 | 18.80 | 21.41          | 22.32 | 21.84 | 22.73 | 23.17 |
|                 | 6H   | 17.43            | 18.22 | 17.89 | 18.66 | 19.12 | 21.88          | 22.66 | 22.34 | 23.11 | 23.57 |
|                 | 8H   | 17.57            | 18.30 | 18.03 | 18.75 | 19.21 | 22.02          | 22.75 | 22.48 | 23.20 | 23.67 |
|                 | 12H  | 17.67            | 18.32 | 18.15 | 18.80 | 19.27 | 22.11          | 22.76 | 22.59 | 23.24 | 23.71 |
| 8H              | 4H   | 17.39            | 18.12 | 17.85 | 18.57 | 19.04 | 21.42          | 22.15 | 21.88 | 22.60 | 23.07 |
|                 | 6H   | 17.87            | 18.48 | 18.37 | 18.97 | 19.45 | 21.93          | 22.54 | 22.43 | 23.03 | 23.51 |
|                 | 8H   | 18.06            | 18.61 | 18.58 | 19.12 | 19.61 | 22.12          | 22.66 | 22.64 | 23.17 | 23.66 |
|                 | 12H  | 18.23            | 18.71 | 18.74 | 19.20 | 19.77 | 22.26          | 22.74 | 22.77 | 23.23 | 23.80 |
| 12H             | 4H   | 17.43            | 18.08 | 17.91 | 18.56 | 19.03 | 21.39          | 22.05 | 21.88 | 22.53 | 23.00 |
|                 | 6H   | 17.93            | 18.47 | 18.45 | 18.98 | 19.47 | 21.91          | 22.45 | 22.42 | 22.96 | 23.45 |
|                 | 8H   | 18.17            | 18.65 | 18.69 | 19.15 | 19.71 | 22.13          | 22.61 | 22.64 | 23.10 | 23.67 |