

Scaled data based on original data using  
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: P646614

Luminaire Tested: S123DR-S1000D835-X4F0-XX-UDD-G-W

Issue Date: 3/20/2023

**Test Information**

Test Method: LM-79-2019  
Report Number: P646614  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2301-905-1)  
Test Lab: INNOVATION CENTER  
Issue Date: 3/20/2023  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S123DR-S1000D835-X4F0-XX-UDD-G-W  
Description: DEFINE 3 DIRECT RECESSED WITH WALL GRAZE FLUSH OPTIC  
STANDARD LIGHT ENGINE  
Light Source: 3500K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4415.5 lumens  
Efficiency: N/A  
Efficacy: 128.0 lumens/watt  
Spacing Criteria (0/90/45): 0.65 / 1.19 / 0.89  
Luminous Opening: Rectangular (W 4' x L: 0.22' x H: 0')  
CIE Type: Direct

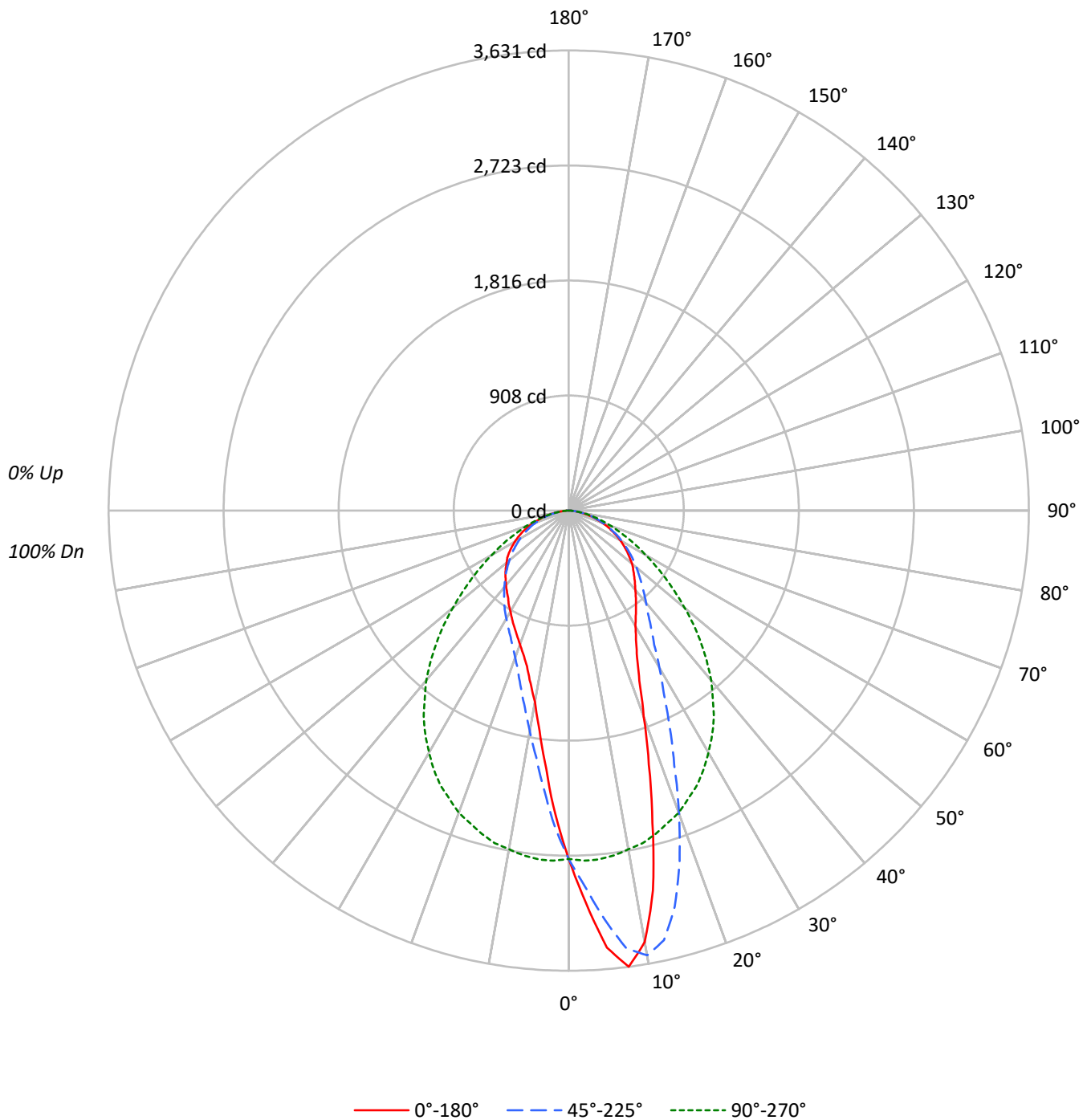
Input Watts (W): 34.5  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 24 FT



TEST NUMBER: P646614

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### Luminous Intensity Polar Plot



TEST NUMBER: P646614

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

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |    |    |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|----|
| RF  | 20  |     |     |     | 20  |     |     |     |     | 20  |     |     |     |     | 20  |     |     |     |    | 20 |
| RC  | 80  |     |     |     | 70  |     |     |     |     | 50  |     |     |     |     | 30  |     |     |     |    | 10 |
| RW  | 70  | 50  | 30  | 10  | 70  | 50  | 30  | 10  | 50  | 30  | 10  | 50  | 30  | 10  | 50  | 30  | 10  | 50  | 30 | 10 |
| RCR |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |    |    |
| 0   | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 | 111 | 111 | 111 | 106 | 106 | 106 | 102 | 102 | 102 | 100 |    |    |
| 1   | 110 | 106 | 102 | 98  | 107 | 103 | 100 | 97  | 99  | 96  | 94  | 95  | 93  | 91  | 92  | 90  | 88  | 86  |    |    |
| 2   | 101 | 94  | 88  | 82  | 99  | 92  | 86  | 82  | 88  | 84  | 80  | 85  | 81  | 78  | 82  | 79  | 76  | 74  |    |    |
| 3   | 93  | 84  | 76  | 70  | 91  | 82  | 75  | 70  | 79  | 73  | 69  | 77  | 72  | 67  | 74  | 70  | 66  | 64  |    |    |
| 4   | 86  | 75  | 67  | 61  | 84  | 74  | 67  | 61  | 72  | 65  | 60  | 69  | 64  | 59  | 67  | 62  | 58  | 56  |    |    |
| 5   | 80  | 68  | 60  | 54  | 78  | 67  | 59  | 54  | 65  | 58  | 53  | 63  | 57  | 52  | 61  | 56  | 52  | 50  |    |    |
| 6   | 74  | 62  | 54  | 48  | 73  | 61  | 53  | 48  | 60  | 53  | 47  | 58  | 52  | 47  | 56  | 51  | 47  | 45  |    |    |
| 7   | 70  | 57  | 49  | 43  | 68  | 56  | 49  | 43  | 55  | 48  | 43  | 53  | 47  | 43  | 52  | 47  | 42  | 40  |    |    |
| 8   | 65  | 53  | 45  | 39  | 64  | 52  | 44  | 39  | 51  | 44  | 39  | 49  | 43  | 39  | 48  | 43  | 39  | 37  |    |    |
| 9   | 61  | 49  | 41  | 36  | 60  | 48  | 41  | 36  | 47  | 40  | 36  | 46  | 40  | 36  | 45  | 40  | 35  | 34  |    |    |
| 10  | 58  | 45  | 38  | 33  | 57  | 45  | 38  | 33  | 44  | 37  | 33  | 43  | 37  | 33  | 42  | 37  | 33  | 31  |    |    |

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

|     | 0°    | 45°   | 90°   | 135°  | 180°  |
|-----|-------|-------|-------|-------|-------|
| 0°  | 33114 | 33114 | 33114 | 33114 | 33114 |
| 5°  | 41877 | 39163 | 33409 | 26792 | 24741 |
| 10° | 42283 | 43593 | 33188 | 21641 | 18754 |
| 15° | 31847 | 40342 | 32961 | 18135 | 15860 |
| 20° | 22189 | 32622 | 32540 | 15813 | 14406 |
| 25° | 16920 | 25025 | 31822 | 14495 | 13513 |
| 30° | 14638 | 19890 | 30677 | 13698 | 12793 |
| 35° | 13581 | 16657 | 29357 | 13056 | 12287 |
| 40° | 12857 | 14903 | 27501 | 12456 | 12115 |
| 45° | 12429 | 13842 | 25143 | 11930 | 12039 |
| 50° | 12216 | 13077 | 22352 | 11474 | 11976 |
| 55° | 11760 | 12350 | 19610 | 11064 | 12029 |
| 60° | 11341 | 11678 | 16903 | 10664 | 11832 |
| 65° | 10652 | 10942 | 14580 | 10215 | 11598 |
| 70° | 9840  | 10153 | 12401 | 9660  | 10918 |
| 75° | 8906  | 9204  | 10628 | 8845  | 9972  |
| 80° | 7341  | 7876  | 8403  | 7695  | 8403  |
| 85° | 5820  | 6346  | 6166  | 6705  | 6705  |

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 80°

Vertical Angle: 45°

Luminance: 28706 cd/sqm



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 259.8  | 5.9       |
| 10°-20°   | 646.5  | 14.6      |
| 20°-30°   | 765.2  | 17.3      |
| 30°-40°   | 769.0  | 17.4      |
| 40°-50°   | 705.2  | 16.0      |
| 50°-60°   | 582.1  | 13.2      |
| 60°-70°   | 411.9  | 9.3       |
| 70°-80°   | 220.0  | 5.0       |
| 80°-90°   | 55.8   | 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°    | 1671.5 | 37.9      |
| 0°-40°    | 2440.5 | 55.3      |
| 0°-60°    | 3727.8 | 84.4      |
| 0°-90°    | 4415.5 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 4415.5 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 45°  | 90°  | 135° | 180° | Flux |
|-----|------|------|------|------|------|------|
| 0°  | 2748 | 2748 | 2748 | 2748 | 2748 |      |
| 5°  | 3462 | 3238 | 2762 | 2215 | 2046 | 330  |
| 15° | 2553 | 3234 | 2642 | 1454 | 1271 | 705  |
| 25° | 1273 | 1882 | 2394 | 1090 | 1016 | 601  |
| 35° | 923  | 1132 | 1996 | 888  | 835  | 580  |
| 45° | 729  | 812  | 1476 | 700  | 706  | 565  |
| 55° | 560  | 588  | 934  | 527  | 573  | 501  |
| 65° | 374  | 384  | 511  | 358  | 407  | 371  |
| 75° | 191  | 198  | 228  | 190  | 214  | 201  |
| 85° | 42   | 46   | 45   | 48   | 48   | 50   |
| 90° | 0    | 0    | 0    | 0    | 0    |      |

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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 10°    | 20°    | 22.5°  | 30°    | 40°    | 45°    | 50°    | 60°    | 67.5°  | 70°    |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0°    | 2748.2 | 2748.2 | 2748.2 | 2748.2 | 2748.2 | 2748.2 | 2748.2 | 2748.2 | 2748.2 | 2748.2 | 2748.2 |
| 2.5°  | 3097.6 | 3091.2 | 3059.3 | 3038.9 | 3044.0 | 2998.1 | 2970.1 | 2947.1 | 2931.8 | 2894.8 | 2875.7 |
| 5°    | 3462.3 | 3480.2 | 3459.7 | 3449.5 | 3397.3 | 3314.4 | 3237.9 | 3221.3 | 3149.9 | 3061.9 | 3031.3 |
| 7.5°  | 3630.6 | 3640.8 | 3628.1 | 3628.1 | 3611.5 | 3537.5 | 3484.0 | 3441.9 | 3319.5 | 3206.0 | 3153.7 |
| 10°   | 3455.9 | 3478.9 | 3528.6 | 3551.6 | 3584.7 | 3574.5 | 3563.0 | 3546.5 | 3463.6 | 3332.2 | 3272.3 |
| 12.5° | 3072.1 | 3100.1 | 3199.6 | 3213.6 | 3327.1 | 3436.8 | 3472.5 | 3513.3 | 3521.0 | 3410.0 | 3345.0 |
| 15°   | 2553.0 | 2630.8 | 2721.4 | 2764.7 | 2908.8 | 3139.7 | 3234.0 | 3345.0 | 3476.3 | 3430.4 | 3379.4 |
| 17.5° | 2102.9 | 2132.2 | 2229.1 | 2321.0 | 2465.1 | 2731.6 | 2906.3 | 3072.1 | 3353.9 | 3399.8 | 3367.9 |
| 20°   | 1730.5 | 1757.3 | 1884.8 | 1878.4 | 2069.7 | 2369.4 | 2544.1 | 2735.4 | 3151.1 | 3300.3 | 3294.0 |
| 22.5° | 1453.8 | 1495.9 | 1567.3 | 1606.8 | 1744.5 | 2011.1 | 2176.8 | 2415.3 | 2920.3 | 3156.2 | 3181.7 |
| 25°   | 1272.7 | 1303.3 | 1346.7 | 1381.1 | 1488.2 | 1707.6 | 1882.3 | 2078.7 | 2629.6 | 2967.5 | 3031.3 |
| 27.5° | 1149.0 | 1161.8 | 1205.1 | 1225.5 | 1296.9 | 1485.7 | 1620.8 | 1800.6 | 2360.5 | 2755.8 | 2845.1 |
| 30°   | 1052.1 | 1061.0 | 1099.3 | 1105.6 | 1161.8 | 1298.2 | 1429.6 | 1576.2 | 2097.8 | 2537.7 | 2639.8 |
| 32.5° | 984.5  | 990.9  | 1020.2 | 1022.7 | 1064.8 | 1164.3 | 1256.1 | 1393.8 | 1849.1 | 2304.4 | 2430.6 |
| 35°   | 923.3  | 927.1  | 948.8  | 955.2  | 981.9  | 1057.2 | 1132.4 | 1238.3 | 1651.4 | 2094.0 | 2233.0 |
| 37.5° | 869.7  | 874.8  | 887.6  | 895.2  | 916.9  | 976.8  | 1027.8 | 1115.8 | 1461.4 | 1874.6 | 2028.9 |
| 40°   | 817.4  | 826.4  | 835.3  | 835.3  | 859.5  | 905.4  | 947.5  | 1020.2 | 1298.2 | 1683.3 | 1819.8 |
| 42.5° | 772.8  | 781.7  | 785.6  | 786.8  | 799.6  | 841.7  | 877.4  | 927.1  | 1174.5 | 1513.7 | 1647.6 |
| 45°   | 729.4  | 733.3  | 737.1  | 739.6  | 748.6  | 785.6  | 812.3  | 859.5  | 1057.2 | 1356.9 | 1486.9 |
| 47.5° | 689.9  | 689.9  | 692.5  | 696.3  | 702.7  | 729.4  | 752.4  | 786.8  | 956.4  | 1216.6 | 1323.7 |
| 50°   | 651.7  | 651.7  | 647.8  | 650.4  | 654.2  | 674.6  | 697.6  | 725.6  | 862.1  | 1087.8 | 1183.4 |
| 52.5° | 605.7  | 605.7  | 607.0  | 603.2  | 607.0  | 624.9  | 642.7  | 670.8  | 781.7  | 969.2  | 1050.8 |
| 55°   | 559.8  | 564.9  | 561.1  | 558.6  | 563.7  | 575.1  | 587.9  | 612.1  | 706.5  | 874.8  | 939.9  |
| 57.5° | 513.9  | 516.5  | 515.2  | 519.0  | 516.5  | 526.7  | 538.2  | 554.7  | 638.9  | 769.0  | 830.2  |
| 60°   | 470.6  | 470.6  | 468.0  | 470.6  | 470.6  | 475.7  | 484.6  | 501.2  | 570.0  | 678.4  | 729.4  |
| 62.5° | 422.1  | 423.4  | 424.7  | 423.4  | 422.1  | 428.5  | 436.1  | 447.6  | 510.1  | 590.4  | 628.7  |
| 65°   | 373.6  | 374.9  | 378.7  | 377.5  | 376.2  | 382.6  | 383.8  | 396.6  | 443.8  | 512.6  | 540.7  |
| 67.5° | 330.3  | 327.7  | 329.0  | 331.6  | 332.8  | 334.1  | 336.7  | 349.4  | 382.6  | 438.7  | 461.6  |
| 70°   | 279.3  | 281.8  | 280.6  | 284.4  | 281.8  | 285.7  | 288.2  | 297.1  | 329.0  | 366.0  | 381.3  |
| 72.5° | 233.4  | 234.6  | 234.6  | 238.5  | 237.2  | 241.0  | 243.6  | 247.4  | 270.4  | 303.5  | 309.9  |
| 75°   | 191.3  | 191.3  | 193.8  | 195.1  | 195.1  | 195.1  | 197.7  | 200.2  | 219.3  | 239.7  | 246.1  |
| 77.5° | 145.4  | 151.8  | 150.5  | 151.8  | 153.0  | 156.9  | 154.3  | 159.4  | 170.9  | 182.4  | 186.2  |
| 80°   | 105.8  | 105.8  | 107.1  | 108.4  | 110.9  | 113.5  | 113.5  | 118.6  | 123.7  | 130.1  | 133.9  |
| 82.5° | 67.6   | 68.9   | 72.7   | 74.0   | 75.2   | 79.1   | 79.1   | 79.1   | 85.4   | 88.0   | 88.0   |
| 85°   | 42.1   | 39.5   | 42.1   | 43.4   | 44.6   | 45.9   | 45.9   | 48.5   | 49.7   | 51.0   | 51.0   |
| 87.5° | 20.4   | 20.4   | 20.4   | 20.4   | 21.7   | 21.7   | 21.7   | 21.7   | 23.0   | 23.0   | 23.0   |
| 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):**

|       | 80°    | 90°    | 100°   | 110°   | 112.5° | 120°   | 130°   | 135°   | 140°   | 150°   | 157.5° |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0°    | 2748.2 | 2748.2 | 2748.2 | 2748.2 | 2748.2 | 2748.2 | 2748.2 | 2748.2 | 2748.2 | 2748.2 | 2748.2 |
| 2.5°  | 2811.9 | 2764.7 | 2694.6 | 2637.2 | 2639.8 | 2587.5 | 2549.2 | 2499.5 | 2484.2 | 2468.9 | 2448.5 |
| 5°    | 2870.6 | 2762.2 | 2616.8 | 2500.8 | 2465.1 | 2378.3 | 2268.7 | 2215.1 | 2183.2 | 2127.1 | 2105.4 |
| 7.5°  | 2943.3 | 2744.3 | 2522.4 | 2341.4 | 2301.8 | 2157.7 | 2027.6 | 1963.9 | 1903.9 | 1864.4 | 1816.0 |
| 10°   | 2990.5 | 2712.5 | 2426.8 | 2187.0 | 2148.8 | 1984.3 | 1814.7 | 1768.8 | 1693.5 | 1645.1 | 1599.2 |
| 12.5° | 3026.2 | 2688.2 | 2328.6 | 2049.3 | 1986.8 | 1827.4 | 1656.5 | 1594.1 | 1539.2 | 1469.1 | 1435.9 |
| 15°   | 3058.0 | 2642.3 | 2227.9 | 1905.2 | 1840.2 | 1668.0 | 1509.9 | 1453.8 | 1404.0 | 1342.8 | 1313.5 |
| 17.5° | 3046.6 | 2586.2 | 2116.9 | 1777.7 | 1712.7 | 1543.0 | 1391.3 | 1327.5 | 1294.4 | 1240.8 | 1220.4 |
| 20°   | 3032.5 | 2537.7 | 2012.3 | 1656.5 | 1585.1 | 1427.0 | 1279.1 | 1233.2 | 1200.0 | 1165.6 | 1147.7 |
| 22.5° | 2987.9 | 2461.2 | 1906.5 | 1545.6 | 1478.0 | 1319.9 | 1193.6 | 1155.4 | 1129.9 | 1105.6 | 1090.3 |
| 25°   | 2912.7 | 2393.6 | 1803.2 | 1434.7 | 1381.1 | 1233.2 | 1126.0 | 1090.3 | 1073.8 | 1049.5 | 1035.5 |
| 27.5° | 2819.6 | 2304.4 | 1699.9 | 1344.1 | 1282.9 | 1151.5 | 1059.7 | 1036.8 | 1018.9 | 999.8  | 985.8  |
| 30°   | 2702.2 | 2204.9 | 1599.2 | 1256.1 | 1200.0 | 1084.0 | 1004.9 | 984.5  | 967.9  | 948.8  | 932.2  |
| 32.5° | 2553.0 | 2104.2 | 1504.8 | 1174.5 | 1127.3 | 1026.6 | 953.9  | 937.3  | 923.3  | 900.3  | 891.4  |
| 35°   | 2386.0 | 1995.8 | 1411.7 | 1096.7 | 1052.1 | 964.1  | 904.2  | 887.6  | 873.5  | 854.4  | 846.8  |
| 37.5° | 2216.4 | 1867.0 | 1319.9 | 1030.4 | 990.9  | 911.8  | 854.4  | 837.8  | 825.1  | 808.5  | 804.7  |
| 40°   | 2036.6 | 1748.4 | 1229.3 | 962.8  | 928.4  | 860.8  | 804.7  | 791.9  | 779.2  | 769.0  | 766.4  |
| 42.5° | 1855.5 | 1611.9 | 1150.3 | 906.7  | 869.7  | 807.2  | 756.2  | 742.2  | 734.5  | 729.4  | 730.7  |
| 45°   | 1684.6 | 1475.5 | 1068.7 | 841.7  | 816.2  | 758.8  | 711.6  | 700.1  | 693.7  | 689.9  | 695.0  |
| 47.5° | 1499.7 | 1336.5 | 992.1  | 786.8  | 761.3  | 710.3  | 665.7  | 655.5  | 652.9  | 651.7  | 660.6  |
| 50°   | 1336.5 | 1192.4 | 909.3  | 730.7  | 709.0  | 656.8  | 621.0  | 612.1  | 609.6  | 613.4  | 626.1  |
| 52.5° | 1182.2 | 1058.5 | 834.0  | 678.4  | 656.8  | 609.6  | 576.4  | 570.0  | 568.8  | 577.7  | 590.4  |
| 55°   | 1029.1 | 933.5  | 752.4  | 621.0  | 599.4  | 558.6  | 533.1  | 526.7  | 525.4  | 543.3  | 554.7  |
| 57.5° | 899.0  | 812.3  | 675.9  | 566.2  | 549.6  | 511.4  | 488.4  | 483.3  | 487.1  | 503.7  | 515.2  |
| 60°   | 771.5  | 701.4  | 605.7  | 507.5  | 494.8  | 461.6  | 443.8  | 442.5  | 446.3  | 465.5  | 476.9  |
| 62.5° | 656.8  | 603.2  | 530.5  | 454.0  | 445.1  | 415.7  | 399.2  | 401.7  | 405.5  | 424.7  | 434.9  |
| 65°   | 558.6  | 511.4  | 456.5  | 400.4  | 389.0  | 368.5  | 357.1  | 358.3  | 366.0  | 382.6  | 392.8  |
| 67.5° | 462.9  | 424.7  | 394.1  | 349.4  | 340.5  | 322.6  | 313.7  | 318.8  | 322.6  | 339.2  | 349.4  |
| 70°   | 382.6  | 352.0  | 329.0  | 295.9  | 289.5  | 274.2  | 267.8  | 274.2  | 278.0  | 292.0  | 304.8  |
| 72.5° | 307.3  | 288.2  | 270.4  | 246.1  | 239.7  | 229.5  | 228.3  | 230.8  | 237.2  | 251.2  | 256.3  |
| 75°   | 238.5  | 228.3  | 213.0  | 197.7  | 193.8  | 188.7  | 187.5  | 190.0  | 196.4  | 204.0  | 209.1  |
| 77.5° | 181.1  | 172.2  | 160.7  | 154.3  | 149.2  | 146.7  | 147.9  | 151.8  | 154.3  | 162.0  | 165.8  |
| 80°   | 131.4  | 121.1  | 118.6  | 109.7  | 108.4  | 107.1  | 109.7  | 110.9  | 114.8  | 119.9  | 122.4  |
| 82.5° | 86.7   | 79.1   | 76.5   | 75.2   | 74.0   | 72.7   | 76.5   | 77.8   | 80.3   | 84.2   | 85.4   |
| 85°   | 47.2   | 44.6   | 44.6   | 43.4   | 44.6   | 47.2   | 47.2   | 48.5   | 48.5   | 49.7   | 48.5   |
| 87.5° | 21.7   | 19.1   | 20.4   | 20.4   | 20.4   | 21.7   | 21.7   | 23.0   | 23.0   | 23.0   | 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    |

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CATALOG NUMBER: S123DR-S1000D835-X4F0-XX-UDD-G-W

**CANDELA DISTRIBUTION (continued):**

|       | 160°   | 170°   | 180°   |
|-------|--------|--------|--------|
| 0°    | 2748.2 | 2748.2 | 2748.2 |
| 2.5°  | 2447.2 | 2438.3 | 2402.6 |
| 5°    | 2086.3 | 2055.7 | 2045.5 |
| 7.5°  | 1810.9 | 1808.3 | 1754.7 |
| 10°   | 1577.5 | 1581.3 | 1532.8 |
| 12.5° | 1430.8 | 1398.9 | 1395.1 |
| 15°   | 1305.9 | 1276.5 | 1271.4 |
| 17.5° | 1212.8 | 1194.9 | 1189.8 |
| 20°   | 1142.6 | 1132.4 | 1123.5 |
| 22.5° | 1086.5 | 1073.8 | 1066.1 |
| 25°   | 1030.4 | 1018.9 | 1016.4 |
| 27.5° | 981.9  | 967.9  | 967.9  |
| 30°   | 932.2  | 923.3  | 919.5  |
| 32.5° | 887.6  | 879.9  | 879.9  |
| 35°   | 844.2  | 840.4  | 835.3  |
| 37.5° | 804.7  | 804.7  | 802.1  |
| 40°   | 766.4  | 770.2  | 770.2  |
| 42.5° | 733.3  | 737.1  | 737.1  |
| 45°   | 697.6  | 703.9  | 706.5  |
| 47.5° | 661.9  | 672.1  | 674.6  |
| 50°   | 630.0  | 637.6  | 638.9  |
| 52.5° | 595.5  | 604.5  | 610.8  |
| 55°   | 559.8  | 568.8  | 572.6  |
| 57.5° | 521.6  | 530.5  | 531.8  |
| 60°   | 479.5  | 488.4  | 491.0  |
| 62.5° | 441.2  | 446.3  | 448.9  |
| 65°   | 394.1  | 401.7  | 406.8  |
| 67.5° | 350.7  | 357.1  | 357.1  |
| 70°   | 303.5  | 306.1  | 309.9  |
| 72.5° | 258.9  | 260.2  | 260.2  |
| 75°   | 210.4  | 213.0  | 214.2  |
| 77.5° | 165.8  | 167.1  | 167.1  |
| 80°   | 122.4  | 121.1  | 121.1  |
| 82.5° | 85.4   | 81.6   | 81.6   |
| 85°   | 48.5   | 47.2   | 48.5   |
| 87.5° | 21.7   | 21.7   | 21.7   |
| 90°   | 0.0    | 0.0    | 0.0    |

(END OF REPORT)