

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: HALO COMMERCIAL

Report Number: P775668

Luminaire Tested: HCDJBS510CSD-HCD4TRC-1000lm-4000K

Issue Date: 2/7/2024

Test Information

Test Method: LM-79-2019
Report Number: P775668
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (A2310613A001)
Test Lab:
Issue Date: 2/7/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO COMMERCIAL
Catalog Number: HCDJBL510CSD-HCD4TRC-1000lm-4000K
Description: 4 INCH ROUND MEDIUM SPECULAR CLEAR TRIM
Light Source: SELECTABLE LUMENS AND CCT ARRAY 90CRI / 4000K CCT
Ballast/Driver: -

Summary

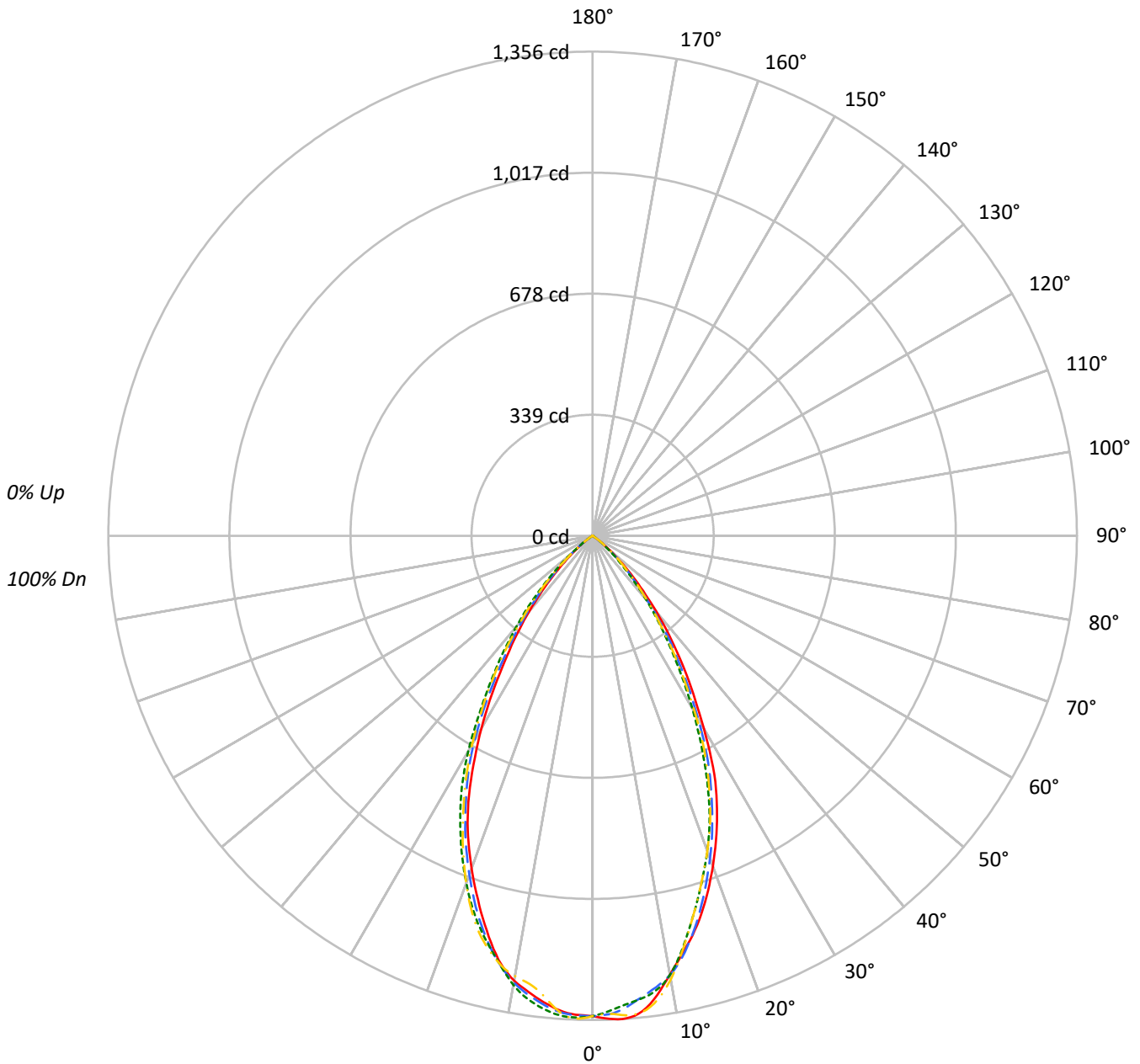
Lumens per Lamp: N/A
Luminaire Lumens: 1224.0 lumens
Efficiency: N/A
Efficacy: 122.4 lumens/watt
Spacing Criteria (0/90/45): 0.87 / 0.87 / 0.88
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

Input Watts (W): 10
Input Voltage (V): NR
Input Current (A_{in}): 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: P775668
CATALOG NUMBER: HCDJBL510CSD-HCD4TRC-1000lm-4000K

Luminous Intensity Polar Plot





TEST NUMBER: P775668

CATALOG NUMBER: HCDJBL510CSD-HCD4TRC-1000lm-4000K

COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

| | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|----|----|----|----|---|--|---|
| RF | 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 | | | | | | | | |
| 1 | 113 | 111 | 108 | 106 | 111 | 108 | 106 | 104 | 104 | 103 | 101 | 101 | 99 | 98 | 97 | 96 | 95 | 93 | | | | | | | | |
| 2 | 108 | 103 | 98 | 95 | 105 | 101 | 97 | 94 | 98 | 95 | 92 | 95 | 92 | 90 | 92 | 90 | 88 | 86 | | | | | | | | |
| 3 | 102 | 95 | 90 | 86 | 100 | 94 | 89 | 86 | 91 | 87 | 84 | 89 | 86 | 83 | 87 | 84 | 82 | 80 | | | | | | | | |
| 4 | 97 | 89 | 83 | 79 | 95 | 88 | 82 | 78 | 85 | 81 | 77 | 83 | 80 | 76 | 82 | 78 | 76 | 74 | | | | | | | | |
| 5 | 91 | 83 | 77 | 72 | 90 | 82 | 76 | 72 | 80 | 75 | 71 | 78 | 74 | 71 | 77 | 73 | 70 | 69 | | | | | | | | |
| 6 | 87 | 78 | 71 | 67 | 85 | 77 | 71 | 67 | 75 | 70 | 66 | 74 | 69 | 66 | 72 | 68 | 65 | 64 | | | | | | | | |
| 7 | 82 | 73 | 66 | 62 | 81 | 72 | 66 | 62 | 71 | 65 | 62 | 69 | 65 | 61 | 68 | 64 | 61 | 60 | | | | | | | | |
| 8 | 78 | 68 | 62 | 58 | 77 | 68 | 62 | 58 | 67 | 61 | 57 | 66 | 61 | 57 | 65 | 60 | 57 | 56 | | | | | | | | |
| 9 | 74 | 64 | 58 | 54 | 73 | 64 | 58 | 54 | 63 | 58 | 54 | 62 | 57 | 54 | 61 | 57 | 53 | 52 | | | | | | | | |
| 10 | 71 | 61 | 55 | 51 | 70 | 60 | 54 | 51 | 59 | 54 | 50 | 59 | 54 | 50 | 58 | 53 | 50 | 49 | | | | | | | | |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 90° | 180° | 270° |
|-----|--------|--------|--------|--------|
| 0° | 169331 | 169331 | 169331 | 169331 |
| 5° | 170483 | 165468 | 167186 | 169270 |
| 10° | 159420 | 159509 | 161669 | 163253 |
| 15° | 147175 | 142654 | 149194 | 151930 |
| 20° | 131811 | 125744 | 132748 | 138507 |
| 25° | 114198 | 105422 | 114296 | 121766 |
| 30° | 90388 | 80943 | 90374 | 101127 |
| 35° | 66739 | 57813 | 65924 | 76295 |
| 40° | 45573 | 38114 | 45178 | 54461 |
| 45° | 26804 | 20806 | 26394 | 34047 |
| 50° | 11395 | 9261 | 12276 | 16524 |
| 55° | 2304 | 2260 | 3906 | 4871 |
| 60° | 378 | 453 | 428 | 579 |
| 65° | 208 | 238 | 208 | 357 |
| 70° | 110 | 147 | 147 | 184 |
| 75° | 49 | 97 | 97 | 146 |
| 80° | 0 | 72 | 72 | 72 |
| 85° | 0 | 0 | 0 | 0 |

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 270°
 Vertical Angle: 45°
 Luminance: 34047 cd/sqm



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 124.6 | 10.2 |
| 10°-20° | 316.6 | 25.9 |
| 20°-30° | 371.4 | 30.3 |
| 30°-40° | 271.9 | 22.2 |
| 40°-50° | 120.0 | 9.8 |
| 50°-60° | 18.3 | 1.5 |
| 60°-70° | 0.9 | 0.1 |
| 70°-80° | 0.2 | 0.0 |
| 80°-90° | 0.0 | 0.0 |
| 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° | 812.6 | 66.4 |
| 0°-40° | 1084.6 | 88.6 |
| 0°-60° | 1222.8 | 99.9 |
| 0°-90° | 1224.0 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 1224.0 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 90° | 180° | 270° | 360° | Flux |
|-----|------|------|------|------|------|------|
| 0° | 1346 | 1346 | 1346 | 1346 | 1346 | |
| 5° | 1350 | 1310 | 1323 | 1340 | 1350 | 125 |
| 15° | 1130 | 1095 | 1145 | 1166 | 1130 | 315 |
| 25° | 822 | 759 | 823 | 877 | 822 | 372 |
| 35° | 434 | 376 | 429 | 497 | 434 | 272 |
| 45° | 151 | 117 | 148 | 191 | 151 | 118 |
| 55° | 10 | 10 | 18 | 22 | 10 | 15 |
| 65° | 1 | 1 | 1 | 1 | 1 | 1 |
| 75° | 0 | 0 | 0 | 0 | 0 | 0 |
| 85° | 0 | 0 | 0 | 0 | 0 | 0 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P775668

CATALOG NUMBER: HCDJBL510CSD-HCD4TRC-1000lm-4000K

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° | 112.5° | 135° | 157.5° | 180° | 202.5° | 225° |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 1345.5 | 1345.5 | 1345.5 | 1345.5 | 1345.5 | 1345.5 | 1345.5 | 1345.5 | 1345.5 | 1345.5 | 1345.5 |
| 0.5° | 1348.0 | 1346.2 | 1344.4 | 1344.1 | 1342.1 | 1342.1 | 1343.1 | 1343.9 | 1344.6 | 1344.9 | 1345.1 |
| 1° | 1350.2 | 1346.8 | 1343.6 | 1341.9 | 1339.3 | 1339.5 | 1341.3 | 1342.5 | 1343.6 | 1344.3 | 1345.0 |
| 1.5° | 1352.2 | 1347.6 | 1342.4 | 1339.1 | 1335.7 | 1337.4 | 1340.0 | 1341.9 | 1342.8 | 1343.5 | 1344.6 |
| 2° | 1354.0 | 1348.0 | 1340.7 | 1335.5 | 1331.7 | 1335.3 | 1340.0 | 1342.3 | 1342.1 | 1342.4 | 1343.8 |
| 2.5° | 1355.3 | 1347.8 | 1338.1 | 1330.6 | 1327.6 | 1333.5 | 1340.9 | 1343.3 | 1340.7 | 1340.5 | 1342.7 |
| 3° | 1356.1 | 1346.6 | 1334.7 | 1325.4 | 1323.4 | 1332.4 | 1342.5 | 1344.2 | 1338.8 | 1337.7 | 1341.2 |
| 3.5° | 1356.0 | 1344.5 | 1330.2 | 1319.7 | 1319.6 | 1331.7 | 1344.5 | 1345.0 | 1335.8 | 1333.9 | 1339.4 |
| 4° | 1354.9 | 1341.3 | 1324.9 | 1313.6 | 1316.0 | 1331.2 | 1346.0 | 1345.1 | 1332.2 | 1329.3 | 1336.8 |
| 4.5° | 1352.8 | 1336.7 | 1318.7 | 1308.0 | 1312.9 | 1330.5 | 1346.6 | 1344.5 | 1328.1 | 1323.7 | 1333.5 |
| 5° | 1349.5 | 1331.3 | 1312.4 | 1302.6 | 1309.8 | 1329.4 | 1346.0 | 1342.5 | 1323.4 | 1317.5 | 1329.5 |
| 5.5° | 1344.5 | 1325.0 | 1306.2 | 1297.5 | 1306.8 | 1327.4 | 1344.0 | 1339.7 | 1318.2 | 1310.7 | 1324.9 |
| 6° | 1338.3 | 1317.7 | 1300.1 | 1293.2 | 1303.6 | 1324.2 | 1340.4 | 1335.5 | 1313.0 | 1304.2 | 1319.9 |
| 6.5° | 1330.3 | 1310.1 | 1294.2 | 1289.1 | 1300.1 | 1320.3 | 1335.5 | 1330.4 | 1307.4 | 1297.5 | 1314.8 |
| 7° | 1320.9 | 1301.6 | 1288.7 | 1285.1 | 1295.8 | 1314.9 | 1329.1 | 1324.0 | 1302.0 | 1291.9 | 1309.4 |
| 7.5° | 1310.4 | 1292.6 | 1282.7 | 1281.2 | 1290.8 | 1307.7 | 1321.4 | 1316.9 | 1296.2 | 1286.1 | 1303.9 |
| 8° | 1298.9 | 1283.0 | 1276.8 | 1276.8 | 1284.9 | 1299.3 | 1311.5 | 1308.5 | 1290.2 | 1280.9 | 1298.0 |
| 8.5° | 1286.8 | 1272.3 | 1270.6 | 1271.9 | 1277.9 | 1289.8 | 1300.6 | 1299.3 | 1284.3 | 1276.5 | 1292.0 |
| 9° | 1273.6 | 1261.7 | 1264.0 | 1266.1 | 1269.3 | 1278.2 | 1288.4 | 1289.2 | 1278.1 | 1272.5 | 1285.1 |
| 9.5° | 1260.4 | 1250.9 | 1256.8 | 1259.4 | 1259.5 | 1265.6 | 1275.5 | 1278.0 | 1272.0 | 1268.4 | 1278.0 |
| 10° | 1247.5 | 1240.0 | 1248.8 | 1251.6 | 1248.2 | 1251.9 | 1260.9 | 1266.0 | 1265.1 | 1264.0 | 1270.0 |
| 10.5° | 1235.1 | 1228.8 | 1239.9 | 1242.3 | 1235.8 | 1236.8 | 1246.0 | 1253.0 | 1257.4 | 1259.3 | 1261.9 |
| 11° | 1223.2 | 1217.7 | 1230.0 | 1230.7 | 1222.5 | 1221.1 | 1229.8 | 1239.3 | 1248.6 | 1254.0 | 1252.9 |
| 11.5° | 1211.5 | 1206.0 | 1218.6 | 1219.3 | 1207.2 | 1205.4 | 1213.5 | 1224.6 | 1239.0 | 1247.4 | 1243.4 |
| 12° | 1199.8 | 1194.2 | 1206.3 | 1205.7 | 1191.5 | 1186.9 | 1195.5 | 1209.2 | 1228.3 | 1239.9 | 1233.3 |
| 12.5° | 1188.4 | 1182.0 | 1193.7 | 1190.6 | 1175.7 | 1169.9 | 1178.9 | 1193.2 | 1216.5 | 1230.6 | 1222.2 |
| 13° | 1177.2 | 1169.9 | 1180.1 | 1175.2 | 1159.7 | 1154.5 | 1161.7 | 1177.2 | 1203.0 | 1219.9 | 1210.8 |
| 13.5° | 1166.1 | 1156.8 | 1166.4 | 1160.7 | 1143.4 | 1136.3 | 1144.8 | 1161.1 | 1189.3 | 1208.6 | 1198.9 |
| 14° | 1154.3 | 1143.3 | 1152.2 | 1144.6 | 1126.9 | 1120.2 | 1127.9 | 1144.7 | 1175.3 | 1195.5 | 1186.6 |
| 14.5° | 1142.0 | 1129.5 | 1137.8 | 1128.6 | 1110.6 | 1104.5 | 1111.9 | 1128.9 | 1160.5 | 1182.0 | 1173.8 |
| 15° | 1129.6 | 1115.6 | 1122.7 | 1112.5 | 1094.9 | 1088.0 | 1094.9 | 1113.1 | 1145.1 | 1168.0 | 1160.2 |
| 15.5° | 1116.6 | 1100.9 | 1107.5 | 1096.2 | 1079.0 | 1071.9 | 1079.2 | 1097.4 | 1130.1 | 1153.8 | 1146.6 |
| 16° | 1103.3 | 1086.4 | 1091.7 | 1079.9 | 1063.2 | 1056.4 | 1062.6 | 1082.0 | 1114.6 | 1138.7 | 1132.7 |
| 16.5° | 1088.8 | 1071.0 | 1075.9 | 1064.0 | 1047.3 | 1041.1 | 1046.8 | 1067.3 | 1099.6 | 1123.5 | 1118.5 |
| 17° | 1074.9 | 1055.9 | 1059.7 | 1047.7 | 1032.1 | 1025.3 | 1031.1 | 1051.6 | 1084.5 | 1108.3 | 1103.9 |
| 17.5° | 1060.1 | 1040.1 | 1043.6 | 1031.5 | 1016.5 | 1010.2 | 1016.1 | 1036.5 | 1068.4 | 1092.7 | 1088.7 |
| 18° | 1045.3 | 1024.6 | 1027.1 | 1015.4 | 1000.7 | 994.5 | 999.6 | 1021.7 | 1053.1 | 1076.9 | 1073.4 |
| 18.5° | 1030.1 | 1008.5 | 1010.7 | 999.2 | 985.1 | 979.3 | 984.0 | 1006.7 | 1038.2 | 1060.4 | 1057.7 |
| 19° | 1015.1 | 992.8 | 993.7 | 982.7 | 969.8 | 964.0 | 968.7 | 991.3 | 1022.6 | 1044.6 | 1041.9 |
| 19.5° | 999.7 | 976.8 | 977.7 | 966.6 | 954.4 | 949.4 | 954.1 | 976.7 | 1007.0 | 1028.0 | 1025.8 |
| 20° | 984.2 | 961.3 | 960.9 | 950.6 | 938.9 | 934.3 | 938.4 | 961.7 | 991.2 | 1011.6 | 1009.8 |
| 20.5° | 968.6 | 945.3 | 944.5 | 934.4 | 923.6 | 919.4 | 923.2 | 946.4 | 975.5 | 995.0 | 993.5 |
| 21° | 952.9 | 929.0 | 927.9 | 918.0 | 907.2 | 903.8 | 908.0 | 931.5 | 959.5 | 978.8 | 977.0 |



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CATALOG NUMBER: HCDJBL510CSD-HCD4TRC-1000lm-4000K

CANDELA DISTRIBUTION (continued):

| | 0° | 22.5° | 45° | 67.5° | 90° | 112.5° | 135° | 157.5° | 180° | 202.5° | 225° |
|-------|-------|-------|-------|-------|-------|--------|-------|--------|-------|--------|-------|
| 22.5° | 905.2 | 879.0 | 875.4 | 865.4 | 855.6 | 854.8 | 860.7 | 885.1 | 911.6 | 929.5 | 928.0 |
| 23° | 889.1 | 861.6 | 857.4 | 847.2 | 837.1 | 836.8 | 843.1 | 868.4 | 895.6 | 913.2 | 911.9 |
| 23.5° | 872.6 | 844.5 | 839.3 | 828.4 | 817.7 | 819.7 | 825.8 | 851.5 | 878.1 | 896.0 | 894.8 |
| 24° | 855.9 | 826.9 | 821.5 | 809.3 | 798.1 | 801.2 | 807.5 | 833.2 | 860.1 | 878.6 | 877.0 |
| 24.5° | 839.5 | 809.6 | 803.3 | 789.4 | 778.6 | 782.7 | 789.1 | 814.6 | 841.3 | 860.8 | 859.7 |
| 25° | 822.4 | 791.5 | 785.2 | 770.0 | 759.2 | 764.2 | 770.8 | 796.0 | 823.1 | 842.7 | 843.1 |
| 25.5° | 805.5 | 774.0 | 767.1 | 750.0 | 739.6 | 745.6 | 752.4 | 777.5 | 803.4 | 824.4 | 824.8 |
| 26° | 788.0 | 756.2 | 749.0 | 729.8 | 719.1 | 725.1 | 734.0 | 758.9 | 783.5 | 806.0 | 807.6 |
| 26.5° | 769.7 | 737.8 | 730.5 | 709.7 | 698.4 | 705.9 | 715.4 | 740.3 | 763.8 | 787.7 | 790.4 |
| 27° | 749.7 | 718.6 | 711.8 | 689.7 | 678.0 | 685.0 | 695.8 | 720.3 | 743.9 | 769.3 | 773.1 |
| 27.5° | 729.4 | 699.7 | 691.7 | 670.1 | 657.7 | 664.5 | 677.4 | 699.5 | 722.9 | 751.1 | 755.9 |
| 28° | 708.6 | 679.6 | 671.5 | 650.4 | 637.0 | 644.1 | 656.8 | 678.2 | 701.9 | 732.8 | 738.6 |
| 28.5° | 687.1 | 658.9 | 651.6 | 630.5 | 616.7 | 623.5 | 636.6 | 657.4 | 681.8 | 712.9 | 719.8 |
| 29° | 665.1 | 638.3 | 631.2 | 611.2 | 596.6 | 602.9 | 616.4 | 636.3 | 661.9 | 693.1 | 700.4 |
| 29.5° | 643.0 | 617.1 | 610.6 | 591.9 | 576.7 | 582.3 | 595.4 | 616.5 | 642.0 | 673.0 | 680.5 |
| 30° | 622.0 | 596.0 | 590.6 | 572.6 | 557.0 | 561.6 | 574.1 | 595.4 | 621.9 | 652.6 | 660.2 |
| 30.5° | 601.4 | 574.6 | 570.8 | 553.5 | 537.1 | 541.5 | 553.9 | 574.9 | 602.0 | 632.1 | 639.7 |
| 31° | 581.3 | 552.8 | 550.9 | 533.7 | 518.0 | 521.3 | 533.4 | 555.3 | 581.8 | 612.4 | 619.0 |
| 31.5° | 561.7 | 532.2 | 531.7 | 514.5 | 498.9 | 501.7 | 513.3 | 536.1 | 561.7 | 592.8 | 598.7 |
| 32° | 542.2 | 512.4 | 512.7 | 495.5 | 480.1 | 483.8 | 493.4 | 516.5 | 542.4 | 573.3 | 578.3 |
| 32.5° | 524.0 | 492.9 | 493.9 | 476.2 | 461.8 | 465.1 | 474.9 | 498.0 | 522.5 | 554.2 | 558.0 |
| 33° | 506.3 | 473.9 | 475.7 | 457.1 | 443.6 | 447.1 | 455.9 | 479.4 | 503.0 | 534.9 | 538.2 |
| 33.5° | 488.4 | 455.1 | 457.6 | 439.5 | 425.9 | 430.4 | 437.8 | 461.3 | 483.8 | 516.5 | 517.5 |
| 34° | 470.2 | 437.1 | 439.6 | 422.0 | 408.9 | 412.0 | 420.1 | 443.6 | 465.1 | 498.3 | 497.6 |
| 34.5° | 451.9 | 419.8 | 422.3 | 404.5 | 392.3 | 395.3 | 402.5 | 426.1 | 446.7 | 480.1 | 478.5 |
| 35° | 434.4 | 402.6 | 404.6 | 388.0 | 376.3 | 380.2 | 385.6 | 408.9 | 429.1 | 462.1 | 460.0 |
| 35.5° | 417.2 | 386.1 | 387.1 | 374.8 | 360.4 | 363.6 | 369.2 | 392.6 | 412.2 | 443.9 | 441.2 |
| 36° | 399.7 | 376.5 | 375.5 | 358.7 | 345.3 | 346.5 | 353.5 | 375.8 | 396.3 | 426.1 | 423.2 |
| 36.5° | 383.3 | 359.4 | 358.0 | 342.7 | 330.3 | 331.9 | 338.1 | 360.3 | 380.4 | 408.3 | 405.7 |
| 37° | 367.9 | 342.1 | 340.3 | 326.7 | 315.5 | 316.5 | 322.9 | 344.3 | 364.7 | 390.9 | 389.2 |
| 37.5° | 352.5 | 324.9 | 322.6 | 310.7 | 301.1 | 301.5 | 308.6 | 328.5 | 349.8 | 374.1 | 372.4 |
| 38° | 337.2 | 307.8 | 304.9 | 295.9 | 286.7 | 287.2 | 294.5 | 314.2 | 334.2 | 357.1 | 356.5 |
| 38.5° | 321.7 | 293.2 | 288.8 | 281.3 | 272.5 | 273.1 | 280.7 | 299.9 | 319.6 | 341.4 | 340.8 |
| 39° | 306.4 | 279.2 | 274.7 | 266.5 | 258.7 | 260.0 | 267.2 | 284.5 | 304.5 | 325.5 | 325.3 |
| 39.5° | 291.7 | 265.3 | 260.3 | 252.2 | 245.0 | 246.8 | 253.6 | 270.8 | 289.8 | 310.2 | 309.8 |
| 40° | 277.4 | 251.3 | 246.5 | 238.1 | 232.0 | 234.0 | 240.7 | 257.3 | 275.0 | 294.7 | 295.0 |
| 40.5° | 263.2 | 238.0 | 232.2 | 224.0 | 218.4 | 221.7 | 228.3 | 243.7 | 261.4 | 280.0 | 280.5 |
| 41° | 249.0 | 225.3 | 219.6 | 210.7 | 206.2 | 209.5 | 216.2 | 230.6 | 247.1 | 265.4 | 266.4 |
| 41.5° | 235.6 | 212.6 | 206.9 | 197.9 | 193.5 | 197.9 | 204.7 | 217.9 | 233.5 | 251.2 | 252.2 |
| 42° | 222.1 | 200.3 | 194.6 | 185.3 | 181.6 | 186.6 | 193.3 | 205.7 | 220.4 | 237.2 | 238.8 |
| 42.5° | 209.3 | 188.3 | 182.2 | 173.3 | 169.8 | 175.6 | 182.5 | 193.9 | 207.8 | 223.8 | 225.5 |
| 43° | 196.8 | 176.2 | 171.2 | 161.9 | 158.5 | 165.0 | 172.3 | 182.1 | 195.6 | 210.5 | 212.7 |
| 43.5° | 184.8 | 164.8 | 160.1 | 150.8 | 147.6 | 154.6 | 162.0 | 171.1 | 183.4 | 197.6 | 200.2 |



TEST NUMBER: P775668

CATALOG NUMBER: HCDJBL510CSD-HCD4TRC-1000lm-4000K

CANDELA DISTRIBUTION (continued):

| | 0° | 22.5° | 45° | 67.5° | 90° | 112.5° | 135° | 157.5° | 180° | 202.5° | 225° |
|-------|-------|-------|-------|-------|-------|--------|-------|--------|-------|--------|-------|
| 45° | 150.6 | 132.8 | 129.3 | 119.8 | 116.9 | 126.1 | 133.4 | 140.1 | 148.3 | 162.1 | 165.7 |
| 45.5° | 139.9 | 122.7 | 119.9 | 110.5 | 107.9 | 117.5 | 124.5 | 130.3 | 137.3 | 151.3 | 154.9 |
| 46° | 129.3 | 113.4 | 111.0 | 101.6 | 100.2 | 109.0 | 115.9 | 121.0 | 126.9 | 140.8 | 144.2 |
| 46.5° | 118.9 | 104.3 | 102.4 | 93.3 | 92.6 | 101.4 | 107.6 | 112.3 | 116.5 | 130.8 | 134.1 |
| 47° | 108.9 | 95.6 | 94.3 | 85.5 | 84.8 | 93.8 | 100.2 | 103.8 | 107.1 | 121.0 | 124.7 |
| 47.5° | 99.2 | 87.3 | 86.4 | 78.2 | 77.1 | 86.3 | 93.0 | 96.2 | 99.4 | 111.8 | 115.4 |
| 48° | 90.4 | 79.3 | 78.9 | 71.4 | 69.6 | 78.7 | 85.6 | 88.7 | 91.7 | 103.9 | 106.2 |
| 48.5° | 81.5 | 71.8 | 71.9 | 65.1 | 63.5 | 71.2 | 78.3 | 81.1 | 84.1 | 96.0 | 98.1 |
| 49° | 73.2 | 64.7 | 65.1 | 59.1 | 57.8 | 64.8 | 70.9 | 73.6 | 76.3 | 88.1 | 90.0 |
| 49.5° | 65.6 | 58.0 | 58.8 | 53.6 | 52.4 | 58.6 | 64.2 | 66.9 | 68.7 | 80.2 | 82.0 |
| 50° | 58.2 | 51.6 | 52.6 | 48.4 | 47.3 | 52.7 | 58.1 | 60.5 | 62.7 | 72.3 | 74.0 |
| 50.5° | 51.6 | 45.5 | 47.0 | 43.5 | 42.4 | 47.2 | 52.1 | 54.7 | 57.2 | 65.6 | 67.0 |
| 51° | 45.3 | 39.8 | 41.6 | 38.7 | 37.9 | 41.8 | 46.5 | 49.4 | 51.8 | 59.3 | 60.5 |
| 51.5° | 39.3 | 35.3 | 36.4 | 34.7 | 33.6 | 36.9 | 41.1 | 44.1 | 46.8 | 53.5 | 54.0 |
| 52° | 34.7 | 30.8 | 32.0 | 30.7 | 29.4 | 32.3 | 36.3 | 39.2 | 42.0 | 48.0 | 48.0 |
| 52.5° | 30.2 | 26.3 | 27.8 | 26.7 | 25.3 | 27.8 | 31.3 | 34.5 | 37.5 | 42.8 | 42.2 |
| 53° | 25.6 | 21.8 | 23.6 | 22.6 | 21.5 | 23.6 | 26.9 | 30.1 | 33.3 | 37.8 | 37.0 |
| 53.5° | 21.1 | 17.2 | 19.4 | 18.7 | 18.0 | 19.9 | 22.8 | 25.7 | 28.9 | 33.2 | 31.9 |
| 54° | 16.6 | 14.0 | 16.0 | 15.3 | 14.9 | 16.4 | 18.9 | 21.9 | 24.8 | 28.8 | 27.3 |
| 54.5° | 13.3 | 11.1 | 12.9 | 12.4 | 12.6 | 13.9 | 15.6 | 18.2 | 21.0 | 24.5 | 23.1 |
| 55° | 10.5 | 8.3 | 10.1 | 9.6 | 10.3 | 11.3 | 13.0 | 15.0 | 17.8 | 20.7 | 19.1 |
| 55.5° | 7.7 | 5.8 | 7.4 | 6.9 | 8.0 | 8.8 | 10.6 | 12.6 | 15.2 | 17.2 | 15.7 |
| 56° | 5.3 | 3.9 | 5.0 | 4.8 | 5.7 | 6.3 | 8.2 | 10.2 | 12.8 | 14.5 | 13.2 |
| 56.5° | 3.5 | 3.4 | 3.5 | 3.5 | 3.5 | 3.9 | 5.8 | 7.8 | 10.3 | 11.9 | 10.7 |
| 57° | 3.0 | 2.9 | 3.2 | 3.2 | 2.9 | 2.9 | 3.4 | 5.5 | 7.8 | 9.2 | 8.3 |
| 57.5° | 2.6 | 2.4 | 2.7 | 2.8 | 2.6 | 2.6 | 2.6 | 3.0 | 5.4 | 6.6 | 5.9 |
| 58° | 2.2 | 2.0 | 2.4 | 2.5 | 2.4 | 2.3 | 2.3 | 2.4 | 2.8 | 4.0 | 3.5 |
| 58.5° | 1.9 | 1.8 | 2.1 | 2.2 | 2.2 | 2.2 | 2.1 | 2.1 | 2.3 | 2.8 | 2.6 |
| 59° | 1.7 | 1.7 | 1.9 | 2.0 | 2.0 | 2.0 | 1.9 | 1.9 | 2.0 | 2.3 | 2.3 |
| 59.5° | 1.6 | 1.6 | 1.8 | 1.9 | 1.9 | 1.9 | 1.8 | 1.8 | 1.8 | 2.0 | 2.1 |
| 60° | 1.5 | 1.4 | 1.6 | 1.7 | 1.8 | 1.7 | 1.7 | 1.6 | 1.7 | 1.8 | 1.9 |
| 60.5° | 1.4 | 1.3 | 1.5 | 1.6 | 1.7 | 1.6 | 1.5 | 1.5 | 1.6 | 1.7 | 1.8 |
| 61° | 1.3 | 1.3 | 1.4 | 1.5 | 1.5 | 1.5 | 1.4 | 1.4 | 1.4 | 1.6 | 1.6 |
| 61.5° | 1.2 | 1.2 | 1.3 | 1.4 | 1.5 | 1.4 | 1.3 | 1.3 | 1.3 | 1.4 | 1.5 |
| 62° | 1.1 | 1.1 | 1.2 | 1.3 | 1.4 | 1.3 | 1.3 | 1.2 | 1.2 | 1.3 | 1.4 |
| 62.5° | 0.9 | 0.9 | 1.2 | 1.3 | 1.3 | 1.2 | 1.2 | 1.2 | 1.2 | 1.3 | 1.3 |
| 63° | 0.9 | 0.9 | 1.1 | 1.2 | 1.2 | 1.2 | 1.1 | 1.1 | 1.1 | 1.2 | 1.2 |
| 63.5° | 0.8 | 0.8 | 0.9 | 1.1 | 1.1 | 1.1 | 0.9 | 0.9 | 0.9 | 1.1 | 1.2 |
| 64° | 0.8 | 0.8 | 0.9 | 0.9 | 1.1 | 0.9 | 0.9 | 0.9 | 0.9 | 0.9 | 1.1 |
| 64.5° | 0.7 | 0.7 | 0.8 | 0.9 | 0.9 | 0.9 | 0.8 | 0.8 | 0.8 | 0.9 | 0.9 |
| 65° | 0.7 | 0.7 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 | 0.7 | 0.7 | 0.8 | 0.9 |
| 65.5° | 0.6 | 0.6 | 0.7 | 0.8 | 0.8 | 0.8 | 0.7 | 0.7 | 0.7 | 0.8 | 0.8 |
| 66° | 0.6 | 0.6 | 0.7 | 0.7 | 0.7 | 0.7 | 0.7 | 0.6 | 0.6 | 0.7 | 0.7 |



TEST NUMBER: P775668

CATALOG NUMBER: HCDJBL510CSD-HCD4TRC-1000lm-4000K

CANDELA DISTRIBUTION (continued):

| | 0° | 22.5° | 45° | 67.5° | 90° | 112.5° | 135° | 157.5° | 180° | 202.5° | 225° |
|-------|-----|-------|-----|-------|-----|--------|------|--------|------|--------|------|
| 67.5° | 0.5 | 0.5 | 0.5 | 0.6 | 0.6 | 0.6 | 0.6 | 0.5 | 0.5 | 0.6 | 0.6 |
| 68° | 0.4 | 0.4 | 0.5 | 0.6 | 0.6 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.6 |
| 68.5° | 0.4 | 0.4 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 |
| 69° | 0.4 | 0.4 | 0.4 | 0.5 | 0.5 | 0.5 | 0.4 | 0.4 | 0.4 | 0.5 | 0.5 |
| 69.5° | 0.3 | 0.3 | 0.4 | 0.5 | 0.5 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.5 |
| 70° | 0.3 | 0.3 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 |
| 70.5° | 0.3 | 0.3 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.3 | 0.3 | 0.4 | 0.4 |
| 71° | 0.3 | 0.3 | 0.3 | 0.4 | 0.4 | 0.4 | 0.3 | 0.3 | 0.3 | 0.4 | 0.4 |
| 71.5° | 0.2 | 0.2 | 0.3 | 0.3 | 0.4 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.4 |
| 72° | 0.2 | 0.2 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 |
| 72.5° | 0.2 | 0.2 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 |
| 73° | 0.2 | 0.2 | 0.2 | 0.3 | 0.3 | 0.3 | 0.2 | 0.2 | 0.2 | 0.3 | 0.3 |
| 73.5° | 0.2 | 0.2 | 0.2 | 0.3 | 0.3 | 0.3 | 0.2 | 0.2 | 0.2 | 0.2 | 0.3 |
| 74° | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 |
| 74.5° | 0.1 | 0.1 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 |
| 75° | 0.1 | 0.1 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 |
| 75.5° | 0.1 | 0.1 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 |
| 76° | 0.1 | 0.1 | 0.1 | 0.2 | 0.2 | 0.2 | 0.2 | 0.1 | 0.1 | 0.2 | 0.2 |
| 76.5° | 0.1 | 0.1 | 0.1 | 0.2 | 0.2 | 0.2 | 0.1 | 0.1 | 0.1 | 0.1 | 0.2 |
| 77° | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 |
| 77.5° | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 |
| 78° | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 |
| 78.5° | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 |
| 79° | 0.1 | 0.0 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 |
| 79.5° | 0.0 | 0.0 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 |
| 80° | 0.0 | 0.0 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 |
| 80.5° | 0.0 | 0.0 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.0 | 0.1 | 0.1 | 0.1 |
| 81° | 0.0 | 0.0 | 0.0 | 0.1 | 0.1 | 0.1 | 0.1 | 0.0 | 0.0 | 0.1 | 0.1 |
| 81.5° | 0.0 | 0.0 | 0.0 | 0.1 | 0.1 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 |
| 82° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 82.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 83° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 83.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 84° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 84.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 85° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 85.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 86° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 86.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 87° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 87.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 88° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 88.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |



TEST NUMBER: P775668
CATALOG NUMBER: HCDJBL510CSD-HCD4TRC-1000lm-4000K

CANDELA DISTRIBUTION (continued):

| | 0° | 22.5° | 45° | 67.5° | 90° | 112.5° | 135° | 157.5° | 180° | 202.5° | 225° |
|-----|-----|-------|-----|-------|-----|--------|------|--------|------|--------|------|
| 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: P775668

CATALOG NUMBER: HCDJBL510CSD-HCD4TRC-1000lm-4000K

CANDELA DISTRIBUTION (continued):

| | 247.5° | 270° | 292.5° | 315° | 337.5° | 360° |
|-------|--------|--------|--------|--------|--------|--------|
| 0° | 1345.5 | 1345.5 | 1345.5 | 1345.5 | 1345.5 | 1345.5 |
| 0.5° | 1346.7 | 1346.6 | 1347.6 | 1348.6 | 1348.7 | 1348.0 |
| 1° | 1347.5 | 1348.2 | 1349.8 | 1351.2 | 1351.5 | 1350.2 |
| 1.5° | 1347.9 | 1349.3 | 1351.1 | 1352.8 | 1353.7 | 1352.2 |
| 2° | 1348.2 | 1350.0 | 1351.2 | 1353.3 | 1355.2 | 1354.0 |
| 2.5° | 1348.4 | 1349.9 | 1350.1 | 1352.3 | 1355.8 | 1355.3 |
| 3° | 1348.3 | 1349.1 | 1347.0 | 1349.0 | 1355.1 | 1356.1 |
| 3.5° | 1348.2 | 1347.9 | 1342.3 | 1344.1 | 1353.0 | 1356.0 |
| 4° | 1348.1 | 1345.9 | 1336.2 | 1336.6 | 1349.6 | 1354.9 |
| 4.5° | 1347.6 | 1343.3 | 1328.5 | 1327.8 | 1344.6 | 1352.8 |
| 5° | 1346.7 | 1339.9 | 1319.4 | 1317.9 | 1338.1 | 1349.5 |
| 5.5° | 1345.8 | 1335.9 | 1310.2 | 1307.3 | 1330.5 | 1344.5 |
| 6° | 1344.3 | 1331.4 | 1300.8 | 1297.3 | 1323.2 | 1338.3 |
| 6.5° | 1341.8 | 1326.7 | 1291.8 | 1288.1 | 1315.5 | 1330.3 |
| 7° | 1338.1 | 1321.5 | 1284.0 | 1280.1 | 1306.4 | 1320.9 |
| 7.5° | 1333.3 | 1316.0 | 1277.7 | 1273.4 | 1297.9 | 1310.4 |
| 8° | 1326.4 | 1309.8 | 1272.3 | 1267.8 | 1288.8 | 1298.9 |
| 8.5° | 1318.2 | 1303.2 | 1267.8 | 1263.6 | 1279.5 | 1286.8 |
| 9° | 1309.0 | 1295.6 | 1263.7 | 1259.5 | 1269.8 | 1273.6 |
| 9.5° | 1298.3 | 1286.9 | 1260.6 | 1255.7 | 1260.5 | 1260.4 |
| 10° | 1286.0 | 1277.5 | 1256.5 | 1251.8 | 1250.7 | 1247.5 |
| 10.5° | 1274.0 | 1267.0 | 1252.1 | 1247.7 | 1241.0 | 1235.1 |
| 11° | 1261.2 | 1256.0 | 1247.1 | 1242.9 | 1231.0 | 1223.2 |
| 11.5° | 1247.8 | 1244.6 | 1241.3 | 1237.3 | 1221.4 | 1211.5 |
| 12° | 1235.3 | 1233.2 | 1234.2 | 1230.6 | 1211.6 | 1199.8 |
| 12.5° | 1223.3 | 1221.8 | 1226.6 | 1222.8 | 1201.8 | 1188.4 |
| 13° | 1210.9 | 1210.3 | 1218.5 | 1215.0 | 1192.5 | 1177.2 |
| 13.5° | 1198.6 | 1199.3 | 1209.6 | 1206.1 | 1182.3 | 1166.1 |
| 14° | 1186.7 | 1188.2 | 1200.3 | 1196.9 | 1171.8 | 1154.3 |
| 14.5° | 1174.7 | 1177.4 | 1190.7 | 1187.3 | 1160.8 | 1142.0 |
| 15° | 1162.5 | 1166.1 | 1180.0 | 1177.0 | 1149.5 | 1129.6 |
| 15.5° | 1150.4 | 1155.1 | 1168.9 | 1166.5 | 1137.2 | 1116.6 |
| 16° | 1137.4 | 1143.3 | 1157.3 | 1154.9 | 1124.7 | 1103.3 |
| 16.5° | 1124.6 | 1131.3 | 1145.4 | 1142.3 | 1111.9 | 1088.8 |
| 17° | 1110.4 | 1118.6 | 1132.8 | 1129.2 | 1098.3 | 1074.9 |
| 17.5° | 1096.6 | 1105.8 | 1119.1 | 1115.1 | 1084.4 | 1060.1 |
| 18° | 1081.9 | 1092.2 | 1104.5 | 1100.3 | 1070.0 | 1045.3 |
| 18.5° | 1067.3 | 1078.3 | 1089.9 | 1084.7 | 1054.5 | 1030.1 |
| 19° | 1051.9 | 1063.6 | 1074.4 | 1068.3 | 1039.6 | 1015.1 |
| 19.5° | 1036.7 | 1049.5 | 1058.7 | 1051.6 | 1024.3 | 999.7 |
| 20° | 1020.8 | 1034.2 | 1043.1 | 1035.2 | 1008.6 | 984.2 |
| 20.5° | 1005.4 | 1019.6 | 1026.0 | 1018.2 | 992.7 | 968.6 |
| 21° | 989.6 | 1004.0 | 1010.0 | 1000.9 | 976.9 | 952.9 |



TEST NUMBER: P775668

CATALOG NUMBER: HCDJBL510CSD-HCD4TRC-1000lm-4000K

CANDELA DISTRIBUTION (continued):

| | 247.5° | 270° | 292.5° | 315° | 337.5° | 360° |
|-------|--------|-------|--------|-------|--------|-------|
| 22.5° | 942.8 | 958.0 | 960.4 | 948.2 | 927.8 | 905.2 |
| 23° | 926.5 | 942.3 | 943.0 | 930.5 | 911.2 | 889.1 |
| 23.5° | 910.2 | 926.0 | 925.4 | 912.4 | 893.5 | 872.6 |
| 24° | 894.5 | 909.9 | 908.0 | 893.4 | 876.5 | 855.9 |
| 24.5° | 878.4 | 893.5 | 890.1 | 874.9 | 858.7 | 839.5 |
| 25° | 861.7 | 876.9 | 871.5 | 856.7 | 841.7 | 822.4 |
| 25.5° | 845.5 | 860.3 | 853.8 | 838.6 | 823.2 | 805.5 |
| 26° | 829.3 | 843.5 | 836.4 | 821.0 | 806.1 | 788.0 |
| 26.5° | 812.2 | 826.8 | 818.6 | 803.1 | 788.3 | 769.7 |
| 27° | 795.0 | 809.8 | 801.2 | 785.6 | 770.2 | 749.7 |
| 27.5° | 777.9 | 792.4 | 783.2 | 767.9 | 750.5 | 729.4 |
| 28° | 760.6 | 774.1 | 765.0 | 749.8 | 732.8 | 708.6 |
| 28.5° | 743.5 | 755.1 | 747.0 | 731.3 | 713.3 | 687.1 |
| 29° | 724.3 | 736.0 | 728.6 | 713.1 | 693.3 | 665.1 |
| 29.5° | 704.4 | 716.3 | 710.4 | 694.1 | 673.4 | 643.0 |
| 30° | 683.5 | 695.9 | 691.3 | 674.8 | 652.9 | 622.0 |
| 30.5° | 662.2 | 675.1 | 671.3 | 654.9 | 631.5 | 601.4 |
| 31° | 642.4 | 653.7 | 651.7 | 635.1 | 610.9 | 581.3 |
| 31.5° | 620.5 | 632.0 | 631.6 | 615.3 | 589.7 | 561.7 |
| 32° | 597.7 | 611.2 | 611.8 | 596.2 | 569.5 | 542.2 |
| 32.5° | 577.7 | 590.7 | 591.6 | 576.9 | 549.5 | 524.0 |
| 33° | 557.0 | 571.0 | 572.5 | 558.4 | 529.8 | 506.3 |
| 33.5° | 536.3 | 550.8 | 551.9 | 539.8 | 511.2 | 488.4 |
| 34° | 516.7 | 532.7 | 533.0 | 521.0 | 493.2 | 470.2 |
| 34.5° | 498.2 | 514.5 | 514.9 | 502.6 | 475.7 | 451.9 |
| 35° | 480.2 | 496.6 | 495.9 | 484.6 | 458.2 | 434.4 |
| 35.5° | 462.5 | 478.9 | 477.8 | 466.4 | 441.5 | 417.2 |
| 36° | 445.1 | 461.6 | 460.3 | 448.7 | 424.7 | 399.7 |
| 36.5° | 427.6 | 444.6 | 442.8 | 430.5 | 408.5 | 383.3 |
| 37° | 410.5 | 427.4 | 425.0 | 412.6 | 392.3 | 367.9 |
| 37.5° | 393.6 | 410.5 | 408.7 | 395.8 | 375.1 | 352.5 |
| 38° | 376.9 | 393.4 | 391.5 | 379.4 | 359.6 | 337.2 |
| 38.5° | 360.4 | 377.0 | 373.4 | 363.4 | 344.2 | 321.7 |
| 39° | 344.1 | 361.9 | 358.3 | 347.4 | 328.8 | 306.4 |
| 39.5° | 328.6 | 346.6 | 343.2 | 331.4 | 313.3 | 291.7 |
| 40° | 313.4 | 331.5 | 328.1 | 315.3 | 298.0 | 277.4 |
| 40.5° | 298.6 | 316.4 | 313.0 | 299.4 | 283.5 | 263.2 |
| 41° | 285.2 | 301.2 | 297.9 | 284.3 | 269.2 | 249.0 |
| 41.5° | 270.7 | 286.8 | 282.9 | 269.6 | 255.2 | 235.6 |
| 42° | 257.1 | 272.8 | 268.0 | 255.3 | 241.5 | 222.1 |
| 42.5° | 243.8 | 258.5 | 253.8 | 241.7 | 228.1 | 209.3 |
| 43° | 231.5 | 244.5 | 239.5 | 228.1 | 214.8 | 196.8 |
| 43.5° | 218.2 | 230.7 | 225.6 | 214.5 | 201.5 | 184.8 |



TEST NUMBER: P775668

CATALOG NUMBER: HCDJBL510CSD-HCD4TRC-1000lm-4000K

CANDELA DISTRIBUTION (continued):

| | 247.5° | 270° | 292.5° | 315° | 337.5° | 360° |
|-------|--------|-------|--------|-------|--------|-------|
| 45° | 182.4 | 191.3 | 186.6 | 176.7 | 163.7 | 150.6 |
| 45.5° | 170.3 | 178.9 | 174.1 | 164.9 | 151.9 | 139.9 |
| 46° | 159.3 | 167.0 | 162.1 | 153.2 | 140.7 | 129.3 |
| 46.5° | 148.2 | 155.3 | 150.8 | 142.1 | 129.7 | 118.9 |
| 47° | 137.6 | 144.0 | 139.4 | 131.2 | 119.2 | 108.9 |
| 47.5° | 127.0 | 132.9 | 128.6 | 120.7 | 108.9 | 99.2 |
| 48° | 117.2 | 122.4 | 117.9 | 110.5 | 99.4 | 90.4 |
| 48.5° | 107.5 | 112.2 | 108.0 | 101.2 | 90.5 | 81.5 |
| 49° | 98.8 | 102.7 | 98.6 | 91.7 | 81.7 | 73.2 |
| 49.5° | 90.2 | 93.4 | 89.5 | 82.9 | 73.6 | 65.6 |
| 50° | 81.4 | 84.4 | 80.3 | 74.3 | 66.1 | 58.2 |
| 50.5° | 72.8 | 76.0 | 72.3 | 66.3 | 58.6 | 51.6 |
| 51° | 65.4 | 68.1 | 64.5 | 58.9 | 51.8 | 45.3 |
| 51.5° | 58.3 | 60.6 | 57.5 | 51.9 | 45.6 | 39.3 |
| 52° | 51.5 | 53.7 | 50.4 | 45.2 | 39.5 | 34.7 |
| 52.5° | 45.3 | 47.3 | 44.2 | 39.3 | 34.9 | 30.2 |
| 53° | 39.6 | 41.1 | 38.2 | 34.7 | 30.2 | 25.6 |
| 53.5° | 34.1 | 35.7 | 33.7 | 29.9 | 25.5 | 21.1 |
| 54° | 29.0 | 31.2 | 29.2 | 25.3 | 20.8 | 16.6 |
| 54.5° | 24.6 | 26.7 | 24.7 | 20.7 | 16.2 | 13.3 |
| 55° | 20.4 | 22.2 | 20.2 | 16.1 | 13.1 | 10.5 |
| 55.5° | 16.6 | 17.5 | 15.7 | 12.9 | 10.2 | 7.7 |
| 56° | 14.1 | 14.3 | 12.6 | 10.2 | 7.5 | 5.3 |
| 56.5° | 11.6 | 11.5 | 10.0 | 7.4 | 4.9 | 3.5 |
| 57° | 9.0 | 8.6 | 7.1 | 5.0 | 3.4 | 3.0 |
| 57.5° | 6.5 | 6.2 | 4.9 | 3.5 | 3.0 | 2.6 |
| 58° | 4.0 | 4.3 | 3.6 | 3.0 | 2.6 | 2.2 |
| 58.5° | 3.0 | 3.8 | 3.3 | 2.7 | 2.2 | 1.9 |
| 59° | 2.6 | 3.4 | 2.8 | 2.3 | 1.9 | 1.7 |
| 59.5° | 2.4 | 2.8 | 2.5 | 2.0 | 1.7 | 1.6 |
| 60° | 2.2 | 2.3 | 2.1 | 1.8 | 1.6 | 1.5 |
| 60.5° | 2.0 | 2.1 | 2.0 | 1.7 | 1.5 | 1.4 |
| 61° | 1.9 | 2.0 | 1.8 | 1.6 | 1.4 | 1.3 |
| 61.5° | 1.7 | 1.8 | 1.7 | 1.5 | 1.3 | 1.2 |
| 62° | 1.6 | 1.7 | 1.6 | 1.4 | 1.2 | 1.1 |
| 62.5° | 1.5 | 1.6 | 1.5 | 1.3 | 1.1 | 0.9 |
| 63° | 1.4 | 1.5 | 1.4 | 1.2 | 1.1 | 0.9 |
| 63.5° | 1.3 | 1.4 | 1.3 | 1.1 | 0.9 | 0.8 |
| 64° | 1.2 | 1.3 | 1.2 | 0.9 | 0.8 | 0.8 |
| 64.5° | 1.2 | 1.2 | 1.1 | 0.9 | 0.8 | 0.7 |
| 65° | 1.1 | 1.2 | 1.1 | 0.8 | 0.7 | 0.7 |
| 65.5° | 0.9 | 1.1 | 0.9 | 0.8 | 0.7 | 0.6 |
| 66° | 0.9 | 0.9 | 0.8 | 0.7 | 0.6 | 0.6 |



TEST NUMBER: P775668

CATALOG NUMBER: HCDJBL510CSD-HCD4TRC-1000lm-4000K

CANDELA DISTRIBUTION (continued):

| | 247.5° | 270° | 292.5° | 315° | 337.5° | 360° |
|-------|--------|------|--------|------|--------|------|
| 67.5° | 0.7 | 0.8 | 0.7 | 0.6 | 0.5 | 0.5 |
| 68° | 0.7 | 0.7 | 0.6 | 0.5 | 0.5 | 0.4 |
| 68.5° | 0.6 | 0.7 | 0.6 | 0.5 | 0.4 | 0.4 |
| 69° | 0.6 | 0.6 | 0.6 | 0.5 | 0.4 | 0.4 |
| 69.5° | 0.5 | 0.6 | 0.5 | 0.4 | 0.4 | 0.3 |
| 70° | 0.5 | 0.5 | 0.5 | 0.4 | 0.3 | 0.3 |
| 70.5° | 0.5 | 0.5 | 0.5 | 0.4 | 0.3 | 0.3 |
| 71° | 0.4 | 0.5 | 0.4 | 0.4 | 0.3 | 0.3 |
| 71.5° | 0.4 | 0.4 | 0.4 | 0.3 | 0.3 | 0.2 |
| 72° | 0.4 | 0.4 | 0.4 | 0.3 | 0.3 | 0.2 |
| 72.5° | 0.4 | 0.4 | 0.3 | 0.3 | 0.2 | 0.2 |
| 73° | 0.3 | 0.3 | 0.3 | 0.3 | 0.2 | 0.2 |
| 73.5° | 0.3 | 0.3 | 0.3 | 0.2 | 0.2 | 0.2 |
| 74° | 0.3 | 0.3 | 0.3 | 0.2 | 0.2 | 0.2 |
| 74.5° | 0.3 | 0.3 | 0.3 | 0.2 | 0.2 | 0.1 |
| 75° | 0.2 | 0.3 | 0.2 | 0.2 | 0.2 | 0.1 |
| 75.5° | 0.2 | 0.2 | 0.2 | 0.2 | 0.1 | 0.1 |
| 76° | 0.2 | 0.2 | 0.2 | 0.2 | 0.1 | 0.1 |
| 76.5° | 0.2 | 0.2 | 0.2 | 0.1 | 0.1 | 0.1 |
| 77° | 0.2 | 0.2 | 0.2 | 0.1 | 0.1 | 0.1 |
| 77.5° | 0.2 | 0.2 | 0.2 | 0.1 | 0.1 | 0.1 |
| 78° | 0.2 | 0.2 | 0.1 | 0.1 | 0.1 | 0.1 |
| 78.5° | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 |
| 79° | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 |
| 79.5° | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.0 |
| 80° | 0.1 | 0.1 | 0.1 | 0.1 | 0.0 | 0.0 |
| 80.5° | 0.1 | 0.1 | 0.1 | 0.1 | 0.0 | 0.0 |
| 81° | 0.1 | 0.1 | 0.1 | 0.1 | 0.0 | 0.0 |
| 81.5° | 0.1 | 0.1 | 0.1 | 0.0 | 0.0 | 0.0 |
| 82° | 0.1 | 0.1 | 0.1 | 0.0 | 0.0 | 0.0 |
| 82.5° | 0.1 | 0.1 | 0.1 | 0.0 | 0.0 | 0.0 |
| 83° | 0.1 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 |
| 83.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 84° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 84.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 85° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 85.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 86° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 86.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 87° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 87.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 88° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 88.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |



TEST NUMBER: P775668

CATALOG NUMBER: HCDJBL510CSD-HCD4TRC-1000lm-4000K

CANDELA DISTRIBUTION (continued):

| | 247.5° | 270° | 292.5° | 315° | 337.5° | 360° |
|-----|--------|------|--------|------|--------|------|
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |



Report Generated By 670245859 / DESKTOP-T8S5UU9

Signify Classified - Internal
Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269

Scaled Data Report





— 0°-180° - - 45°-225° - - - - 90°-270° - · - · 135°-315°

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Peachtree City, GA 30269

Scaled Data Report



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1121 Highway 74 South
Peachtree City, GA 30269

Scaled Data Report





| | | | | | | | | | | | |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 21.5° | 937.3 | 912.7 | 910.8 | 900.7 | 890.6 | 888.3 | 893.5 | 916.4 | 943.5 | 961.9 | 960.8 |
| 22° | 921.5 | 895.9 | 893.5 | 883.0 | 873.4 | 871.8 | 877.5 | 901.2 | 927.6 | 945.9 | 944.4 |



| | | | | | | | | | | | |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 44° | 173.1 | 153.7 | 149.4 | 139.9 | 137.2 | 144.8 | 152.1 | 160.3 | 171.2 | 185.3 | 188.4 |
| 44.5° | 161.5 | 143.1 | 139.2 | 129.6 | 126.8 | 135.2 | 142.6 | 149.9 | 159.6 | 173.6 | 176.7 |



| | | | | | | | | | | | |
|-------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 66.5° | 0.5 | 0.5 | 0.6 | 0.7 | 0.7 | 0.7 | 0.6 | 0.6 | 0.6 | 0.7 | 0.7 |
| 67° | 0.5 | 0.5 | 0.6 | 0.6 | 0.7 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 | 0.7 |



| | | | | | | | | | | | |
|-------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 89° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 89.5° | 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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| | | | | | | |
|-------|-------|-------|-------|-------|-------|-------|
| 21.5° | 973.9 | 988.8 | 993.6 | 983.6 | 960.7 | 937.3 |
| 22° | 958.1 | 973.2 | 976.8 | 966.3 | 944.7 | 921.5 |



| | | | | | | |
|-------|-------|-------|-------|-------|-------|-------|
| 44° | 205.9 | 217.4 | 212.1 | 201.5 | 188.4 | 173.1 |
| 44.5° | 193.9 | 204.3 | 199.4 | 189.0 | 176.2 | 161.5 |

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| | | | | | | |
|-------|-----|-----|-----|-----|-----|-----|
| 66.5° | 0.8 | 0.9 | 0.8 | 0.7 | 0.6 | 0.5 |
| 67° | 0.8 | 0.8 | 0.7 | 0.6 | 0.5 | 0.5 |

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Peachtree City, GA 30269

Scaled Data Report



| | | | | | | |
|-------|-----|-----|-----|-----|-----|-----|
| 89° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 89.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

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Scaled Data Report



(END OF REPORT)