

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



Scaled data based on original data using
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for
Cooper Lighting Solutions
(formerly Eaton)

Brand: LUMARK

Report Number: P1449912

Luminaire Tested: **TWC60_T4_24W_4000K**

Issue Date: 5/19/2026

Test Information

Test Method: LM-79-08
Report Number: P1449912
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA ()
Test Lab: INNOVATION CENTER
Issue Date: 5/19/2026
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: LUMARK
Catalog Number: TWC60_T4_24W_4000K
Description: Tapered Wall Cutoff Wall Mount Luminaire at, T4 distribution, 24W
4000K settings
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3934 lumens
Efficiency: N/A
Efficacy: 161.2 lumens/watt
Luminous Opening: Rectangular (W 0.67' x L: 0.42' x H: 0')
IES Classification: Type IV - Short
BUG Rating: B1 - U0 - G1

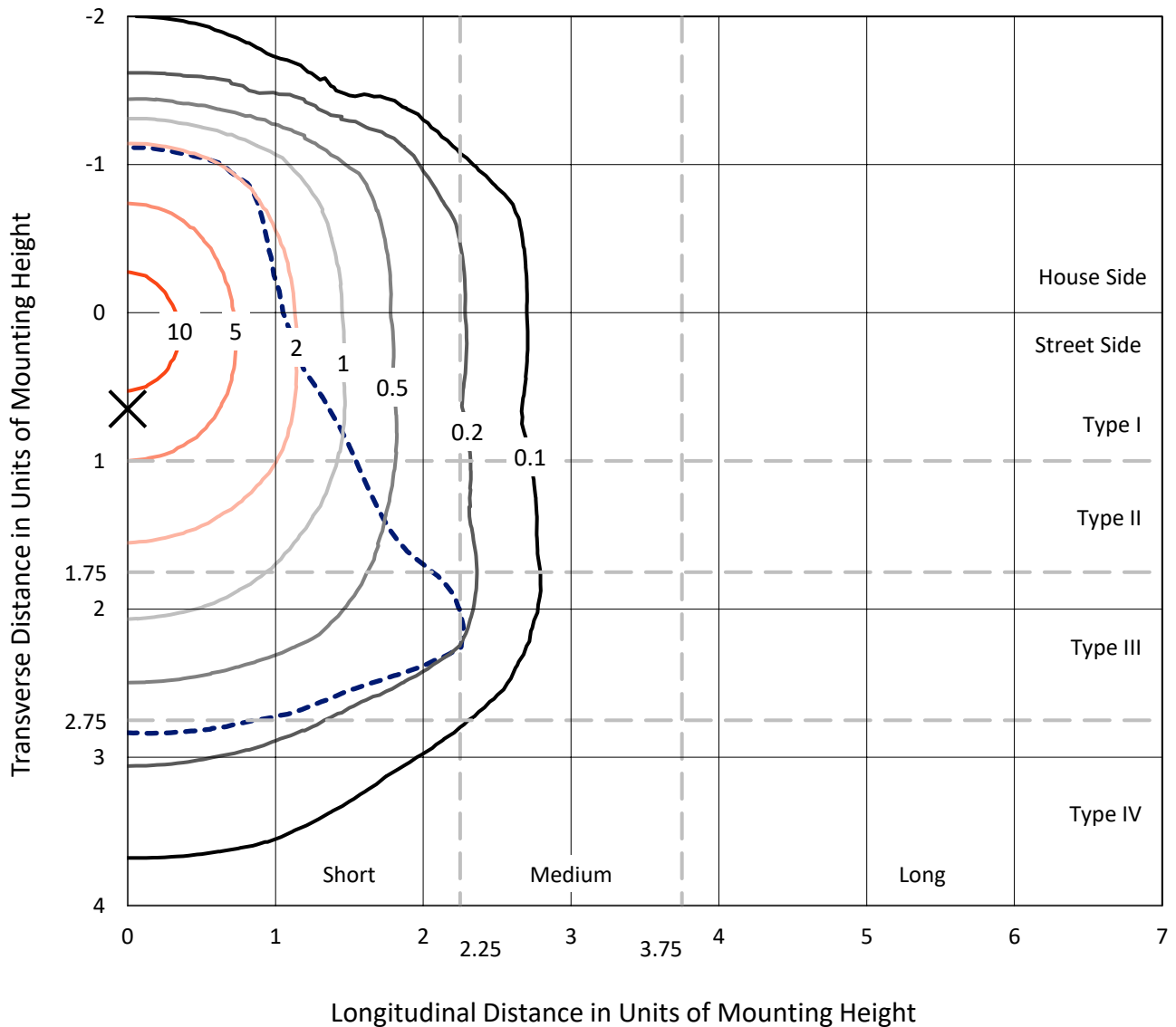
Input Watts (W): 24.4
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

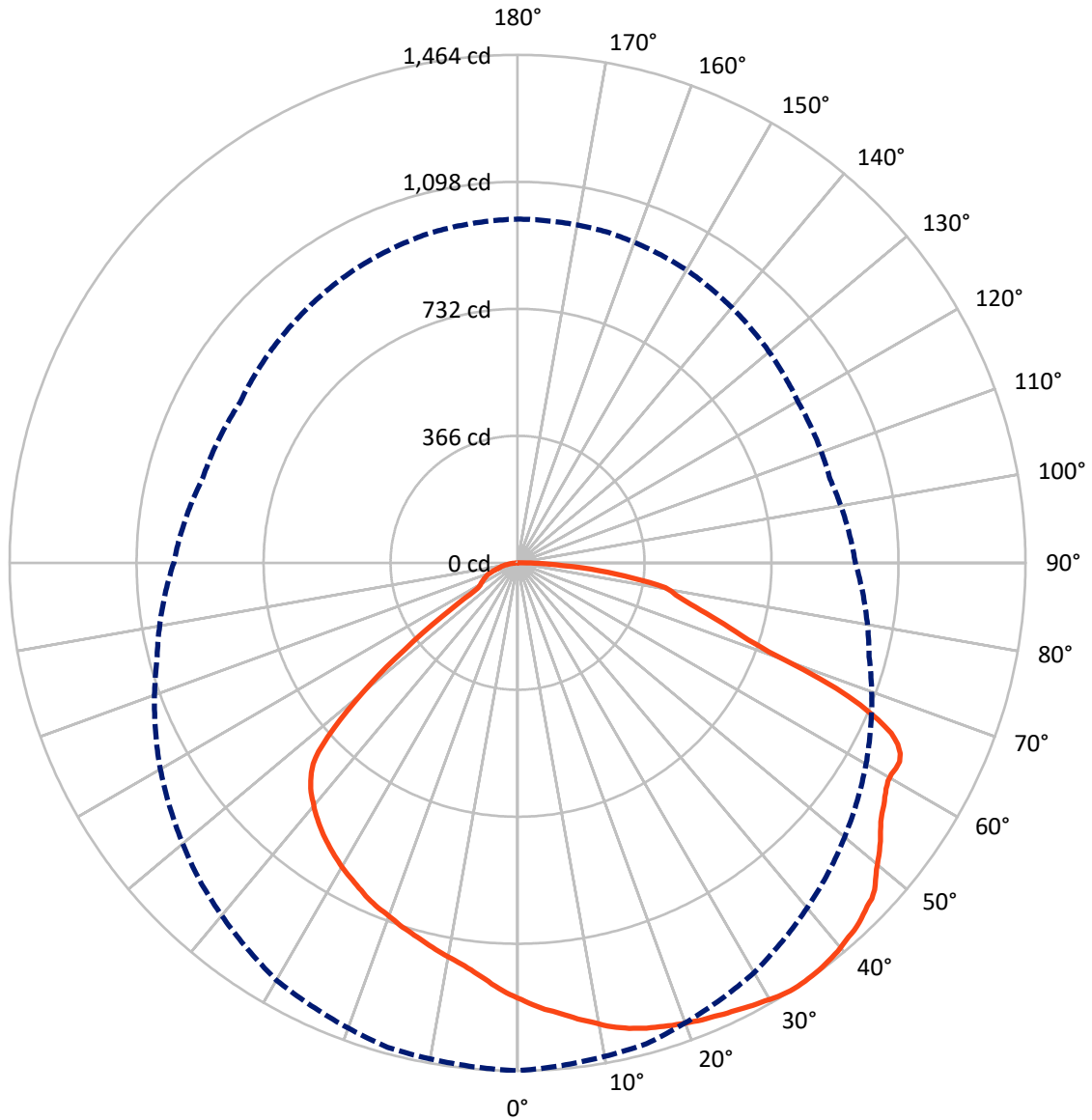
✕ Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 13 fc
 Type IV - Short - N/A

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Luminous Intensity Polar Plot



— Vertical Plane Through 0-Deg Lateral - - - Horizontal Cone Through 33-Deg Vertical

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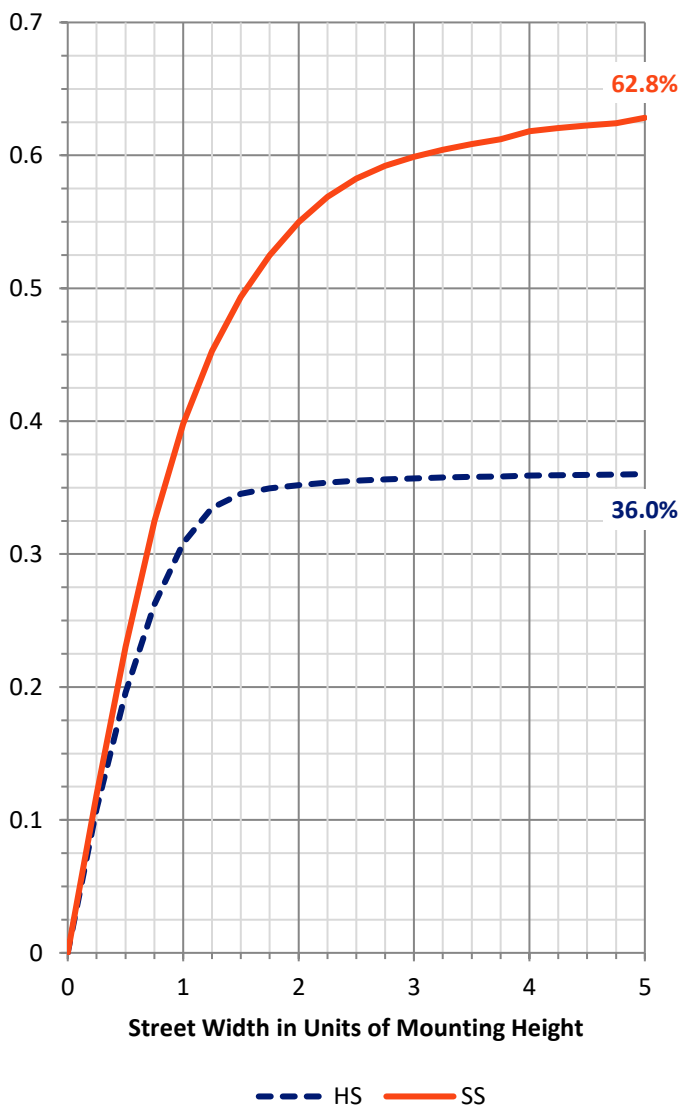
FLUX DISTRIBUTION:

| | | Downward | Upward | Total |
|--------------------|-----------|----------|--------|--------|
| House Side | Lumens | 1426.4 | 0.0 | 1426.4 |
| | % Fixture | 36.3 | 0.0 | 36.3 |
| Street Side | Lumens | 2507.6 | 0.0 | 2507.6 |
| | % Fixture | 63.7 | 0.0 | 63.7 |
| Total | Lumens | 3934.0 | 0.0 | 3934.0 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

Coefficient of Utilization

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 119.3 | 3.0 |
| 10°-20° | 347.0 | 8.8 |
| 20°-30° | 541.1 | 13.8 |
| 30°-40° | 682.9 | 17.4 |
| 40°-50° | 746.7 | 19.0 |
| 50°-60° | 661.2 | 16.8 |
| 60°-70° | 500.5 | 12.7 |
| 70°-80° | 261.2 | 6.6 |
| 80°-90° | 74.1 | 1.9 |
| 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°-90° | 3934.0 | 100.0 |
| 0°-180° | 3934.0 | 100.0 |



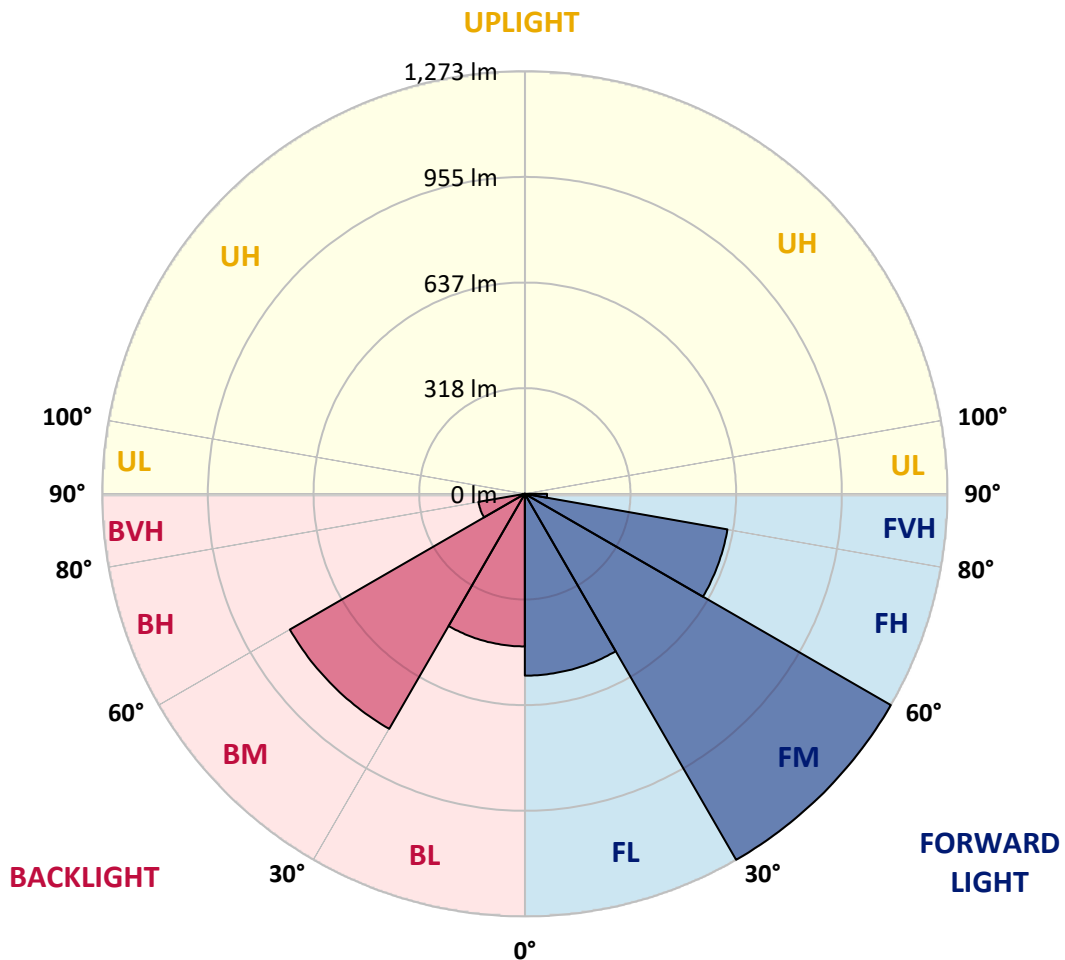
REPORT NUMBER: P1449912
 CATALOG NUMBER: TWC60_T4_24W_4000K

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | Lumens | % Fixture | Zone Rating/Lumen Limit | | |
|----------------|--------|-----------|-------------------------|------|--------|
| | | | B | U | G |
| FL (0°-30°) | 547.7 | 13.9 | | | |
| FM (30°-60°) | 1273.2 | 32.4 | | | |
| FH (60°-80°) | 619.8 | 15.8 | | | G0/660 |
| FVH (80°-90°) | 67.0 | 1.7 | | | G1/100 |
| BL (0°-30°) | 459.7 | 11.7 | B1/500 | | |
| BM (30°-60°) | 817.6 | 20.8 | B1/1000 | | |
| BH (60°-80°) | 141.9 | 3.6 | B1/500 | | G1/500 |
| BVH (80°-90°) | 7.2 | 0.2 | | | G0/10 |
| UL (90°-100°) | 0.0 | 0.0 | | U0/0 | |
| UH (100°-180°) | 0.0 | 0.0 | | U0/0 | |

BUG Rating: B1-U0-G1

Type IV Short





REPORT NUMBER: P1449912

CATALOG NUMBER: TWC60_T4_24W_4000K

CANDELA DISTRIBUTION (FULL):

| | 0° | 15° | 30° | 45° | 60° | 75° | 90° | 105° | 120° | 135° | 150° |
|-----|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 1259.3 | 1259.3 | 1259.3 | 1259.3 | 1259.3 | 1259.3 | 1259.3 | 1259.3 | 1259.3 | 1259.3 | 1259.3 |
| 1° | 1269.8 | 1268.7 | 1267.1 | 1265.3 | 1263.1 | 1260.7 | 1258.1 | 1255.4 | 1253.0 | 1251.1 | 1249.8 |
| 2° | 1280.0 | 1279.0 | 1276.6 | 1272.6 | 1266.5 | 1261.9 | 1256.9 | 1251.9 | 1247.3 | 1243.5 | 1240.9 |
| 3° | 1289.7 | 1287.7 | 1284.6 | 1279.4 | 1271.9 | 1262.9 | 1255.0 | 1247.9 | 1241.5 | 1235.9 | 1231.9 |
| 4° | 1297.0 | 1295.9 | 1291.3 | 1284.4 | 1275.3 | 1263.1 | 1252.5 | 1243.6 | 1234.8 | 1227.1 | 1221.3 |
| 5° | 1306.4 | 1304.1 | 1298.3 | 1289.3 | 1277.9 | 1263.4 | 1249.8 | 1238.5 | 1227.3 | 1217.0 | 1209.1 |
| 6° | 1315.4 | 1312.4 | 1305.2 | 1293.8 | 1280.2 | 1262.9 | 1246.7 | 1232.9 | 1219.2 | 1206.3 | 1197.5 |
| 7° | 1326.2 | 1321.2 | 1311.9 | 1297.8 | 1281.6 | 1262.0 | 1243.1 | 1226.7 | 1210.4 | 1195.6 | 1186.7 |
| 8° | 1334.7 | 1329.3 | 1318.3 | 1302.3 | 1282.8 | 1260.0 | 1238.4 | 1219.8 | 1200.9 | 1185.2 | 1177.0 |
| 9° | 1344.0 | 1338.2 | 1325.4 | 1307.0 | 1283.8 | 1257.8 | 1233.2 | 1212.2 | 1191.4 | 1175.6 | 1168.7 |
| 10° | 1355.2 | 1348.4 | 1333.3 | 1311.4 | 1284.3 | 1255.5 | 1228.0 | 1204.5 | 1182.0 | 1166.4 | 1160.7 |
| 11° | 1365.2 | 1357.7 | 1341.1 | 1315.5 | 1284.7 | 1252.7 | 1222.2 | 1196.4 | 1172.8 | 1158.1 | 1153.5 |
| 12° | 1372.4 | 1365.1 | 1347.8 | 1319.6 | 1285.3 | 1249.0 | 1215.3 | 1187.6 | 1163.0 | 1149.8 | 1145.8 |
| 13° | 1380.6 | 1371.4 | 1353.2 | 1323.4 | 1285.7 | 1245.1 | 1208.5 | 1178.3 | 1152.9 | 1141.4 | 1138.0 |
| 14° | 1386.0 | 1377.1 | 1357.0 | 1325.7 | 1285.9 | 1241.7 | 1201.7 | 1168.9 | 1143.0 | 1133.3 | 1130.5 |
| 15° | 1392.1 | 1381.6 | 1359.3 | 1326.5 | 1285.0 | 1237.7 | 1193.6 | 1159.0 | 1133.2 | 1125.2 | 1122.5 |
| 16° | 1396.7 | 1385.2 | 1361.9 | 1327.1 | 1282.8 | 1233.2 | 1185.7 | 1149.5 | 1123.2 | 1116.6 | 1114.5 |
| 17° | 1401.0 | 1388.6 | 1363.0 | 1326.0 | 1279.5 | 1227.4 | 1176.9 | 1138.9 | 1113.1 | 1107.7 | 1106.7 |
| 18° | 1406.1 | 1392.3 | 1362.8 | 1323.1 | 1275.4 | 1221.4 | 1168.1 | 1128.2 | 1103.3 | 1098.5 | 1099.2 |
| 19° | 1410.5 | 1396.1 | 1363.6 | 1320.8 | 1270.2 | 1214.6 | 1158.8 | 1117.2 | 1093.6 | 1089.7 | 1092.4 |
| 20° | 1414.4 | 1400.0 | 1365.6 | 1318.1 | 1264.4 | 1206.7 | 1149.1 | 1106.1 | 1083.5 | 1081.5 | 1085.2 |
| 21° | 1419.1 | 1403.2 | 1366.9 | 1315.4 | 1258.4 | 1197.5 | 1139.0 | 1094.7 | 1073.3 | 1072.7 | 1076.5 |
| 22° | 1422.8 | 1406.6 | 1367.7 | 1312.7 | 1251.9 | 1187.7 | 1127.6 | 1082.9 | 1062.8 | 1063.6 | 1068.6 |
| 23° | 1425.5 | 1408.7 | 1368.4 | 1310.3 | 1245.1 | 1177.3 | 1116.7 | 1070.7 | 1051.7 | 1054.2 | 1060.9 |
| 24° | 1430.2 | 1411.5 | 1368.6 | 1307.9 | 1238.2 | 1166.5 | 1104.1 | 1058.2 | 1040.6 | 1044.8 | 1053.7 |
| 25° | 1433.7 | 1413.7 | 1368.1 | 1304.8 | 1231.0 | 1155.5 | 1091.1 | 1045.6 | 1029.6 | 1035.5 | 1046.5 |
| 26° | 1438.0 | 1415.8 | 1367.6 | 1301.1 | 1222.7 | 1144.1 | 1078.1 | 1032.4 | 1018.7 | 1025.6 | 1038.6 |
| 27° | 1442.8 | 1418.1 | 1367.9 | 1297.1 | 1214.4 | 1132.0 | 1065.0 | 1019.5 | 1007.3 | 1015.6 | 1029.8 |
| 28° | 1447.0 | 1421.5 | 1367.5 | 1292.8 | 1206.4 | 1119.5 | 1051.3 | 1005.8 | 995.3 | 1006.1 | 1020.7 |
| 29° | 1450.7 | 1424.8 | 1366.0 | 1288.1 | 1197.7 | 1106.2 | 1036.9 | 991.9 | 983.0 | 997.2 | 1011.2 |
| 30° | 1456.2 | 1427.8 | 1365.5 | 1282.7 | 1189.2 | 1092.4 | 1021.7 | 977.2 | 970.5 | 987.3 | 1002.3 |
| 31° | 1460.4 | 1430.3 | 1365.1 | 1277.2 | 1180.1 | 1078.4 | 1005.8 | 962.8 | 957.6 | 976.2 | 994.0 |
| 32° | 1462.9 | 1433.4 | 1364.6 | 1271.3 | 1170.4 | 1064.3 | 990.7 | 947.9 | 944.8 | 964.9 | 984.7 |
| 33° | 1464.4 | 1435.5 | 1364.2 | 1265.8 | 1160.3 | 1049.3 | 973.8 | 932.6 | 932.3 | 953.7 | 974.8 |
| 34° | 1463.5 | 1435.0 | 1363.7 | 1260.0 | 1149.2 | 1034.4 | 957.8 | 917.3 | 919.3 | 942.3 | 964.8 |
| 35° | 1462.4 | 1434.8 | 1363.5 | 1253.7 | 1137.6 | 1018.6 | 940.9 | 902.0 | 906.1 | 930.5 | 954.8 |
| 36° | 1461.4 | 1432.5 | 1361.7 | 1247.1 | 1125.5 | 1002.5 | 922.9 | 886.8 | 892.7 | 918.5 | 944.3 |
| 37° | 1457.8 | 1429.7 | 1358.4 | 1240.8 | 1112.8 | 985.0 | 905.7 | 871.5 | 879.4 | 906.2 | 933.7 |
| 38° | 1455.2 | 1426.6 | 1354.6 | 1234.3 | 1099.3 | 968.5 | 888.3 | 856.8 | 866.2 | 893.9 | 923.1 |
| 39° | 1451.2 | 1421.5 | 1349.8 | 1226.6 | 1085.0 | 951.6 | 871.4 | 841.1 | 852.9 | 881.8 | 911.2 |
| 40° | 1445.7 | 1415.9 | 1344.4 | 1217.7 | 1070.8 | 933.5 | 854.3 | 824.8 | 839.7 | 870.8 | 899.5 |
| 41° | 1439.9 | 1409.0 | 1338.3 | 1208.5 | 1056.3 | 915.1 | 837.2 | 808.6 | 825.1 | 860.1 | 887.6 |
| 42° | 1436.9 | 1403.8 | 1332.7 | 1198.9 | 1041.4 | 895.7 | 817.8 | 791.8 | 809.5 | 848.3 | 876.1 |
| 43° | 1430.4 | 1397.9 | 1325.0 | 1190.0 | 1026.0 | 875.8 | 798.6 | 775.6 | 794.1 | 835.1 | 864.7 |
| 44° | 1422.0 | 1390.8 | 1316.3 | 1181.2 | 1010.6 | 855.5 | 778.7 | 758.9 | 778.4 | 820.9 | 853.0 |



REPORT NUMBER: P1449912
 CATALOG NUMBER: TWC60_T4_24W_4000K

CANDELA DISTRIBUTION (continued):

| | 0° | 15° | 30° | 45° | 60° | 75° | 90° | 105° | 120° | 135° | 150° |
|-----|--------|--------|--------|--------|-------|-------|-------|-------|-------|-------|-------|
| 45° | 1413.0 | 1381.5 | 1308.3 | 1172.0 | 995.6 | 834.3 | 758.8 | 741.2 | 762.7 | 806.8 | 840.0 |
| 46° | 1407.5 | 1372.9 | 1300.0 | 1162.6 | 979.7 | 813.5 | 738.6 | 723.4 | 747.3 | 792.3 | 825.9 |
| 47° | 1396.1 | 1364.6 | 1290.2 | 1152.3 | 963.2 | 792.2 | 717.9 | 705.0 | 732.0 | 777.5 | 810.3 |
| 48° | 1378.3 | 1353.5 | 1278.5 | 1141.3 | 947.2 | 769.9 | 697.8 | 687.8 | 716.4 | 762.4 | 790.4 |
| 49° | 1361.3 | 1335.8 | 1267.9 | 1129.7 | 931.5 | 747.7 | 677.6 | 670.5 | 700.7 | 746.4 | 765.1 |
| 50° | 1347.1 | 1319.1 | 1255.4 | 1118.1 | 915.5 | 724.8 | 657.0 | 652.3 | 684.8 | 729.6 | 731.4 |
| 51° | 1333.5 | 1304.5 | 1239.1 | 1106.0 | 899.6 | 702.7 | 636.6 | 633.9 | 669.1 | 711.8 | 687.4 |
| 52° | 1318.3 | 1290.5 | 1221.8 | 1092.9 | 882.8 | 681.2 | 615.5 | 615.5 | 653.4 | 692.2 | 632.0 |
| 53° | 1301.9 | 1275.7 | 1204.4 | 1079.9 | 865.8 | 659.0 | 593.7 | 596.6 | 636.5 | 670.1 | 570.8 |
| 54° | 1286.2 | 1259.0 | 1188.7 | 1065.3 | 848.1 | 637.7 | 572.4 | 578.7 | 618.8 | 643.0 | 505.4 |
| 55° | 1275.2 | 1244.3 | 1172.3 | 1047.7 | 827.5 | 616.9 | 550.7 | 560.4 | 600.6 | 607.4 | 440.2 |
| 56° | 1266.3 | 1232.7 | 1154.5 | 1028.8 | 806.4 | 594.5 | 529.3 | 541.6 | 581.6 | 562.7 | 372.9 |
| 57° | 1255.8 | 1223.2 | 1136.1 | 1009.1 | 785.8 | 571.7 | 504.8 | 522.6 | 562.0 | 508.7 | 304.4 |
| 58° | 1246.4 | 1213.6 | 1120.7 | 990.3 | 765.5 | 548.3 | 481.0 | 502.8 | 540.8 | 450.3 | 240.2 |
| 59° | 1239.6 | 1205.1 | 1108.4 | 969.7 | 744.8 | 525.3 | 458.0 | 482.8 | 519.4 | 391.1 | 184.4 |
| 60° | 1238.2 | 1200.0 | 1098.8 | 947.0 | 722.9 | 500.8 | 435.9 | 462.0 | 495.2 | 329.1 | 144.7 |
| 61° | 1241.6 | 1198.7 | 1091.4 | 925.0 | 699.2 | 476.0 | 413.6 | 440.7 | 468.6 | 267.3 | 123.3 |
| 62° | 1241.6 | 1200.1 | 1083.6 | 903.8 | 674.3 | 452.0 | 392.6 | 418.7 | 436.8 | 209.0 | 115.8 |
| 63° | 1233.0 | 1197.4 | 1081.3 | 884.1 | 649.3 | 426.8 | 372.4 | 396.5 | 398.7 | 156.4 | 110.9 |
| 64° | 1214.5 | 1185.5 | 1084.3 | 866.3 | 625.1 | 401.0 | 353.5 | 373.8 | 351.6 | 120.4 | 106.7 |
| 65° | 1184.1 | 1160.5 | 1092.2 | 851.0 | 599.0 | 374.6 | 334.6 | 350.9 | 304.0 | 106.8 | 102.3 |
| 66° | 1133.5 | 1120.9 | 1089.8 | 838.5 | 568.4 | 348.4 | 315.2 | 327.8 | 253.2 | 100.4 | 97.8 |
| 67° | 1068.4 | 1063.2 | 1073.3 | 830.8 | 536.2 | 321.6 | 295.3 | 305.8 | 202.4 | 93.6 | 93.2 |
| 68° | 987.9 | 990.6 | 1036.6 | 833.4 | 502.6 | 295.3 | 274.4 | 284.4 | 161.5 | 87.8 | 88.8 |
| 69° | 878.8 | 899.7 | 965.9 | 848.4 | 470.4 | 271.1 | 253.1 | 262.8 | 128.7 | 83.0 | 84.8 |
| 70° | 768.8 | 796.1 | 874.5 | 867.5 | 438.6 | 248.5 | 230.4 | 240.2 | 97.2 | 78.3 | 80.8 |
| 71° | 701.2 | 711.2 | 761.4 | 863.3 | 412.0 | 225.5 | 207.4 | 217.2 | 78.9 | 73.7 | 76.4 |
| 72° | 659.2 | 657.5 | 649.6 | 800.5 | 388.2 | 203.5 | 184.1 | 191.8 | 72.8 | 69.6 | 70.9 |
| 73° | 620.7 | 623.1 | 570.4 | 684.9 | 363.3 | 181.4 | 161.7 | 166.0 | 68.0 | 65.8 | 65.0 |
| 74° | 581.4 | 590.9 | 526.7 | 554.1 | 360.1 | 161.9 | 141.0 | 138.3 | 62.8 | 61.8 | 58.9 |
| 75° | 544.9 | 555.1 | 490.2 | 472.7 | 404.1 | 142.3 | 122.2 | 111.8 | 57.5 | 56.6 | 53.0 |
| 76° | 513.8 | 515.9 | 457.4 | 436.2 | 435.3 | 124.4 | 105.9 | 85.0 | 52.6 | 51.0 | 47.0 |
| 77° | 488.0 | 472.9 | 426.6 | 406.6 | 365.2 | 108.5 | 89.6 | 63.7 | 48.1 | 45.5 | 41.7 |
| 78° | 466.3 | 433.5 | 393.2 | 375.5 | 257.3 | 92.5 | 73.7 | 53.9 | 43.9 | 40.2 | 37.9 |
| 79° | 451.9 | 405.0 | 359.5 | 340.7 | 191.5 | 80.6 | 61.0 | 47.6 | 39.8 | 34.9 | 34.9 |
| 80° | 432.6 | 378.7 | 327.0 | 292.8 | 165.4 | 70.2 | 49.5 | 41.8 | 35.2 | 28.6 | 31.6 |
| 81° | 383.9 | 352.7 | 301.8 | 241.5 | 168.6 | 59.7 | 38.6 | 35.9 | 30.2 | 23.1 | 27.7 |
| 82° | 334.9 | 327.0 | 277.8 | 205.6 | 150.0 | 50.1 | 28.9 | 30.1 | 25.3 | 19.4 | 23.4 |
| 83° | 285.9 | 296.8 | 251.4 | 178.5 | 103.2 | 41.7 | 21.9 | 24.8 | 20.3 | 16.5 | 19.0 |
| 84° | 236.3 | 264.7 | 215.9 | 155.3 | 69.5 | 33.9 | 16.5 | 19.8 | 15.6 | 13.1 | 14.3 |
| 85° | 188.1 | 230.6 | 170.0 | 134.5 | 54.2 | 26.2 | 12.5 | 15.1 | 11.5 | 9.4 | 9.5 |
| 86° | 132.0 | 185.7 | 130.4 | 108.8 | 43.2 | 19.2 | 8.6 | 10.8 | 7.9 | 5.8 | 4.8 |
| 87° | 91.6 | 135.4 | 96.0 | 67.4 | 31.6 | 12.6 | 4.7 | 6.4 | 4.4 | 2.7 | 2.0 |
| 88° | 49.8 | 80.6 | 63.1 | 30.0 | 20.3 | 6.6 | 2.2 | 2.6 | 1.6 | 1.0 | 0.8 |
| 89° | 25.3 | 35.7 | 33.9 | 19.4 | 12.4 | 3.2 | 0.6 | 0.5 | 0.3 | 0.2 | 0.1 |



REPORT NUMBER: P1449912
 CATALOG NUMBER: TWC60_T4_24W_4000K

CANDELA DISTRIBUTION (continued):

| | 0° | 15° | 30° | 45° | 60° | 75° | 90° | 105° | 120° | 135° | 150° |
|------|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 91° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 92° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 93° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 94° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 95° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 96° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 97° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 98° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 99° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 100° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 101° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 102° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 103° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 104° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 105° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 106° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 107° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 108° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 109° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 110° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 111° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 112° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 113° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 114° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 115° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 116° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 117° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 118° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 119° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 120° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 121° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 122° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 123° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 124° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 125° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 126° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 127° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 128° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 129° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 130° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 131° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 132° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 133° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 134° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |



REPORT NUMBER: P1449912
 CATALOG NUMBER: TWC60_T4_24W_4000K

CANDELA DISTRIBUTION (continued):

| | 0° | 15° | 30° | 45° | 60° | 75° | 90° | 105° | 120° | 135° | 150° |
|------|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|
| 135° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 136° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 137° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 138° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 139° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 140° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 141° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 142° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 143° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 144° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 145° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 146° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 147° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 148° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 149° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 150° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 151° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 152° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 153° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 154° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 155° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 156° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 157° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 158° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 159° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 160° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 161° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 162° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 163° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 164° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 165° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 166° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 167° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 168° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 169° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 170° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 171° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 172° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 173° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 174° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 175° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 176° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 177° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 178° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 179° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |



REPORT NUMBER: P1449912
CATALOG NUMBER: TWC60_T4_24W_4000K

CANDELA DISTRIBUTION (continued):

| | 0° | 15° | 30° | 45° | 60° | 75° | 90° | 105° | 120° | 135° | 150° |
|------|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|
| 180° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |



REPORT NUMBER: P1449912
 CATALOG NUMBER: TWC60_T4_24W_4000K

CANDELA DISTRIBUTION (continued):

| | 165° | 180° | 195° | 210° | 225° | 240° | 255° | 270° | 285° | 300° | 315° |
|-----|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 1259.3 | 1259.3 | 1259.3 | 1259.3 | 1259.3 | 1259.3 | 1259.3 | 1259.3 | 1259.3 | 1259.3 | 1259.3 |
| 1° | 1249.4 | 1249.7 | 1249.9 | 1250.8 | 1252.5 | 1254.7 | 1257.3 | 1260.1 | 1262.4 | 1264.6 | 1266.3 |
| 2° | 1239.7 | 1239.9 | 1240.8 | 1242.5 | 1245.6 | 1249.8 | 1254.7 | 1259.8 | 1264.5 | 1268.2 | 1273.0 |
| 3° | 1229.4 | 1228.3 | 1229.9 | 1233.2 | 1238.2 | 1244.6 | 1251.1 | 1258.6 | 1265.3 | 1272.8 | 1279.9 |
| 4° | 1217.5 | 1216.5 | 1218.4 | 1222.8 | 1229.6 | 1237.9 | 1246.7 | 1256.6 | 1266.1 | 1276.7 | 1285.7 |
| 5° | 1204.8 | 1203.2 | 1206.1 | 1211.7 | 1220.8 | 1231.3 | 1242.3 | 1254.5 | 1267.3 | 1280.4 | 1291.0 |
| 6° | 1193.4 | 1192.5 | 1194.5 | 1200.2 | 1210.5 | 1223.7 | 1237.5 | 1251.5 | 1267.2 | 1283.2 | 1295.9 |
| 7° | 1182.9 | 1181.5 | 1184.0 | 1189.3 | 1200.1 | 1215.5 | 1232.4 | 1249.3 | 1266.7 | 1285.3 | 1301.2 |
| 8° | 1173.3 | 1171.9 | 1174.3 | 1178.9 | 1189.8 | 1207.2 | 1226.6 | 1246.0 | 1265.9 | 1287.3 | 1306.6 |
| 9° | 1165.5 | 1163.7 | 1166.1 | 1169.8 | 1179.8 | 1198.3 | 1219.8 | 1241.2 | 1264.4 | 1288.9 | 1312.0 |
| 10° | 1158.0 | 1156.6 | 1158.6 | 1161.5 | 1170.4 | 1189.2 | 1212.9 | 1236.8 | 1262.6 | 1290.5 | 1317.2 |
| 11° | 1150.8 | 1150.1 | 1151.3 | 1153.9 | 1161.3 | 1179.8 | 1205.1 | 1231.4 | 1260.3 | 1292.1 | 1322.5 |
| 12° | 1143.6 | 1142.9 | 1143.5 | 1146.0 | 1152.0 | 1169.9 | 1196.9 | 1225.3 | 1257.6 | 1293.9 | 1327.6 |
| 13° | 1136.2 | 1135.5 | 1136.2 | 1138.0 | 1142.8 | 1159.7 | 1188.6 | 1219.0 | 1254.9 | 1295.7 | 1332.0 |
| 14° | 1129.2 | 1128.1 | 1129.5 | 1130.0 | 1134.1 | 1149.6 | 1179.6 | 1212.7 | 1252.9 | 1296.4 | 1335.2 |
| 15° | 1121.5 | 1120.5 | 1121.4 | 1121.6 | 1125.0 | 1139.2 | 1170.2 | 1205.4 | 1249.7 | 1296.1 | 1336.6 |
| 16° | 1114.3 | 1114.6 | 1113.3 | 1113.6 | 1116.3 | 1128.4 | 1160.5 | 1198.3 | 1246.0 | 1294.9 | 1337.3 |
| 17° | 1107.4 | 1107.1 | 1106.0 | 1105.7 | 1107.5 | 1117.6 | 1150.5 | 1190.8 | 1241.5 | 1292.5 | 1336.6 |
| 18° | 1101.2 | 1101.8 | 1099.7 | 1097.3 | 1097.8 | 1106.8 | 1139.5 | 1182.3 | 1235.3 | 1288.6 | 1334.8 |
| 19° | 1094.0 | 1094.4 | 1092.5 | 1089.4 | 1088.9 | 1096.2 | 1129.0 | 1172.8 | 1228.2 | 1284.2 | 1333.1 |
| 20° | 1086.6 | 1086.9 | 1085.5 | 1081.3 | 1079.7 | 1085.2 | 1117.9 | 1164.5 | 1221.0 | 1279.4 | 1331.4 |
| 21° | 1079.5 | 1080.5 | 1078.1 | 1072.7 | 1070.3 | 1074.5 | 1106.3 | 1155.3 | 1212.8 | 1273.9 | 1329.7 |
| 22° | 1073.6 | 1075.2 | 1071.1 | 1064.4 | 1060.6 | 1063.1 | 1094.6 | 1144.3 | 1203.6 | 1268.2 | 1328.2 |
| 23° | 1068.2 | 1069.6 | 1064.4 | 1056.1 | 1050.3 | 1051.3 | 1082.4 | 1132.8 | 1194.2 | 1262.5 | 1327.4 |
| 24° | 1061.7 | 1063.0 | 1057.8 | 1048.0 | 1040.2 | 1039.8 | 1069.6 | 1120.9 | 1184.8 | 1257.0 | 1326.6 |
| 25° | 1054.0 | 1055.6 | 1050.8 | 1039.8 | 1030.2 | 1028.5 | 1057.0 | 1108.6 | 1174.6 | 1251.3 | 1324.1 |
| 26° | 1046.3 | 1046.6 | 1042.6 | 1032.5 | 1019.6 | 1016.5 | 1044.0 | 1094.9 | 1163.8 | 1244.9 | 1321.2 |
| 27° | 1037.5 | 1038.7 | 1033.5 | 1023.8 | 1009.3 | 1004.0 | 1029.8 | 1080.8 | 1152.5 | 1238.1 | 1318.1 |
| 28° | 1029.5 | 1031.2 | 1025.0 | 1014.7 | 999.0 | 991.4 | 1015.9 | 1066.8 | 1140.9 | 1231.0 | 1315.2 |
| 29° | 1021.8 | 1024.0 | 1016.8 | 1005.1 | 988.8 | 978.8 | 1001.4 | 1052.7 | 1128.8 | 1223.9 | 1312.0 |
| 30° | 1014.3 | 1016.4 | 1008.8 | 995.1 | 978.3 | 965.4 | 986.1 | 1038.1 | 1116.0 | 1215.8 | 1308.2 |
| 31° | 1005.5 | 1007.9 | 1000.7 | 985.4 | 967.6 | 951.9 | 971.4 | 1023.4 | 1103.3 | 1207.1 | 1303.5 |
| 32° | 996.7 | 999.3 | 992.2 | 975.5 | 955.7 | 938.2 | 955.9 | 1007.3 | 1090.3 | 1198.4 | 1299.7 |
| 33° | 987.8 | 990.9 | 983.6 | 965.8 | 943.6 | 924.1 | 940.0 | 991.3 | 1076.3 | 1189.3 | 1295.8 |
| 34° | 979.1 | 981.8 | 974.2 | 955.8 | 931.3 | 910.2 | 924.0 | 975.4 | 1062.4 | 1179.5 | 1291.3 |
| 35° | 970.5 | 972.8 | 964.7 | 945.1 | 918.5 | 896.6 | 907.8 | 958.9 | 1048.2 | 1169.0 | 1287.0 |
| 36° | 960.4 | 963.4 | 954.7 | 934.8 | 906.0 | 883.2 | 892.0 | 941.7 | 1033.2 | 1158.4 | 1282.6 |
| 37° | 950.1 | 953.3 | 944.5 | 924.1 | 893.8 | 869.8 | 876.4 | 924.4 | 1017.9 | 1147.0 | 1278.0 |
| 38° | 939.2 | 942.7 | 933.8 | 912.4 | 881.9 | 856.2 | 861.3 | 907.1 | 1002.1 | 1135.3 | 1272.6 |
| 39° | 928.3 | 931.7 | 922.0 | 900.4 | 870.2 | 841.6 | 845.2 | 887.5 | 985.7 | 1124.1 | 1266.2 |
| 40° | 916.6 | 920.0 | 911.1 | 888.4 | 858.3 | 826.5 | 827.8 | 869.2 | 968.5 | 1111.7 | 1259.1 |
| 41° | 905.1 | 907.7 | 898.9 | 877.1 | 845.5 | 811.3 | 809.9 | 849.4 | 950.5 | 1098.7 | 1250.9 |
| 42° | 893.2 | 896.0 | 887.2 | 866.3 | 832.6 | 796.4 | 792.0 | 829.9 | 932.0 | 1086.2 | 1243.0 |
| 43° | 880.9 | 882.7 | 875.2 | 855.1 | 819.6 | 780.8 | 774.6 | 809.1 | 913.1 | 1073.3 | 1235.3 |
| 44° | 869.2 | 866.1 | 863.3 | 842.1 | 806.3 | 764.7 | 756.9 | 787.9 | 892.9 | 1059.8 | 1227.4 |



REPORT NUMBER: P1449912
 CATALOG NUMBER: TWC60_T4_24W_4000K

CANDELA DISTRIBUTION (continued):

| | 165° | 180° | 195° | 210° | 225° | 240° | 255° | 270° | 285° | 300° | 315° |
|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|--------|
| 45° | 857.0 | 848.0 | 851.1 | 828.5 | 792.4 | 748.8 | 739.4 | 766.8 | 871.8 | 1045.5 | 1218.3 |
| 46° | 835.1 | 826.2 | 832.9 | 814.9 | 777.9 | 732.7 | 721.5 | 745.7 | 851.7 | 1031.2 | 1208.0 |
| 47° | 804.8 | 790.9 | 808.8 | 800.3 | 763.2 | 716.0 | 703.6 | 723.2 | 830.2 | 1017.4 | 1197.6 |
| 48° | 764.6 | 742.3 | 775.8 | 783.8 | 748.6 | 699.3 | 685.2 | 702.2 | 808.9 | 1004.1 | 1186.7 |
| 49° | 712.7 | 683.2 | 730.7 | 765.2 | 733.1 | 683.3 | 666.2 | 680.9 | 787.8 | 990.8 | 1175.9 |
| 50° | 650.0 | 617.5 | 675.1 | 742.7 | 716.7 | 667.2 | 646.5 | 660.1 | 766.6 | 977.5 | 1163.7 |
| 51° | 584.0 | 550.2 | 612.6 | 711.6 | 699.7 | 650.9 | 627.5 | 638.9 | 745.9 | 962.9 | 1150.3 |
| 52° | 516.9 | 481.4 | 546.3 | 669.7 | 681.9 | 634.2 | 607.9 | 616.7 | 725.4 | 946.9 | 1136.2 |
| 53° | 447.9 | 409.7 | 479.7 | 620.6 | 663.1 | 617.4 | 588.1 | 594.4 | 703.7 | 928.8 | 1120.7 |
| 54° | 376.0 | 338.2 | 410.3 | 560.3 | 642.8 | 599.9 | 568.7 | 570.5 | 682.5 | 911.0 | 1102.7 |
| 55° | 306.7 | 269.6 | 339.4 | 498.0 | 620.6 | 582.1 | 548.6 | 546.8 | 661.0 | 894.6 | 1084.1 |
| 56° | 240.8 | 208.8 | 272.0 | 434.6 | 593.7 | 563.8 | 528.4 | 523.8 | 638.3 | 877.9 | 1066.0 |
| 57° | 183.1 | 162.9 | 208.0 | 367.9 | 559.3 | 543.9 | 507.7 | 500.1 | 615.4 | 859.9 | 1047.1 |
| 58° | 148.8 | 137.9 | 163.2 | 300.9 | 515.6 | 522.8 | 486.3 | 477.0 | 592.0 | 840.1 | 1027.3 |
| 59° | 131.6 | 128.6 | 137.0 | 237.4 | 463.4 | 501.3 | 465.2 | 455.1 | 569.3 | 818.5 | 1007.0 |
| 60° | 124.8 | 124.5 | 125.2 | 180.9 | 407.3 | 479.1 | 443.4 | 433.3 | 544.3 | 795.6 | 986.9 |
| 61° | 121.2 | 121.1 | 120.4 | 138.6 | 350.2 | 457.0 | 421.9 | 412.3 | 518.1 | 772.1 | 969.4 |
| 62° | 117.6 | 117.5 | 116.6 | 117.3 | 290.8 | 433.5 | 400.6 | 391.3 | 491.7 | 748.8 | 954.5 |
| 63° | 113.7 | 113.7 | 112.7 | 108.9 | 232.2 | 409.8 | 378.9 | 370.3 | 463.6 | 723.2 | 941.7 |
| 64° | 109.9 | 110.1 | 108.8 | 104.8 | 177.5 | 383.0 | 356.6 | 349.6 | 435.2 | 693.5 | 931.0 |
| 65° | 106.1 | 106.6 | 104.7 | 99.5 | 133.9 | 353.4 | 334.2 | 328.2 | 407.6 | 663.0 | 921.8 |
| 66° | 102.5 | 103.2 | 100.6 | 94.8 | 111.2 | 315.8 | 311.7 | 306.7 | 382.1 | 633.8 | 917.9 |
| 67° | 98.8 | 99.4 | 96.6 | 90.1 | 97.9 | 274.1 | 289.8 | 284.0 | 355.8 | 605.4 | 924.9 |
| 68° | 95.1 | 95.5 | 92.7 | 85.4 | 90.0 | 229.6 | 268.5 | 261.1 | 327.3 | 577.8 | 939.8 |
| 69° | 91.1 | 91.4 | 88.8 | 81.1 | 85.2 | 185.5 | 247.4 | 237.4 | 300.1 | 553.8 | 944.3 |
| 70° | 85.7 | 85.3 | 84.1 | 76.8 | 79.9 | 147.7 | 225.9 | 214.3 | 277.2 | 531.2 | 923.9 |
| 71° | 79.4 | 79.1 | 78.3 | 73.1 | 74.7 | 117.7 | 205.6 | 191.3 | 254.9 | 514.5 | 859.9 |
| 72° | 73.1 | 72.7 | 72.2 | 68.7 | 69.9 | 87.8 | 185.5 | 168.6 | 233.6 | 512.3 | 745.9 |
| 73° | 66.7 | 66.4 | 65.9 | 63.3 | 65.1 | 70.8 | 166.9 | 147.2 | 211.8 | 546.7 | 621.4 |
| 74° | 60.4 | 60.5 | 59.8 | 57.6 | 60.8 | 65.3 | 147.0 | 128.1 | 191.1 | 585.2 | 531.5 |
| 75° | 55.0 | 55.7 | 54.0 | 51.8 | 56.8 | 59.8 | 126.3 | 109.9 | 168.4 | 542.4 | 481.1 |
| 76° | 51.1 | 52.6 | 49.3 | 46.3 | 52.2 | 54.8 | 106.1 | 93.7 | 146.2 | 448.8 | 442.7 |
| 77° | 48.3 | 50.2 | 46.2 | 40.8 | 46.9 | 49.9 | 86.0 | 78.8 | 128.6 | 365.4 | 407.5 |
| 78° | 45.4 | 46.9 | 43.3 | 35.6 | 41.4 | 45.2 | 67.4 | 65.1 | 118.5 | 282.7 | 374.5 |
| 79° | 40.8 | 41.5 | 39.7 | 31.7 | 36.0 | 40.6 | 53.6 | 53.6 | 107.1 | 237.6 | 336.4 |
| 80° | 36.3 | 37.2 | 35.0 | 28.8 | 30.8 | 36.2 | 45.3 | 43.3 | 97.3 | 234.7 | 289.0 |
| 81° | 31.6 | 32.3 | 30.4 | 25.6 | 25.1 | 31.7 | 38.6 | 35.7 | 92.2 | 208.9 | 246.8 |
| 82° | 26.2 | 26.2 | 25.5 | 21.9 | 19.5 | 26.8 | 32.3 | 28.1 | 86.2 | 150.9 | 214.9 |
| 83° | 19.7 | 18.8 | 19.7 | 17.8 | 15.6 | 21.7 | 26.1 | 20.5 | 72.4 | 108.2 | 190.4 |
| 84° | 14.0 | 13.5 | 14.2 | 13.4 | 12.3 | 16.9 | 20.1 | 15.1 | 52.4 | 87.1 | 167.9 |
| 85° | 8.8 | 8.5 | 9.0 | 9.0 | 8.9 | 12.6 | 14.9 | 10.8 | 37.3 | 72.2 | 140.1 |
| 86° | 4.1 | 3.6 | 4.2 | 4.7 | 5.5 | 8.4 | 10.5 | 7.2 | 25.8 | 58.7 | 99.9 |
| 87° | 1.7 | 1.4 | 1.7 | 1.8 | 2.6 | 4.5 | 6.1 | 4.1 | 15.0 | 46.4 | 61.8 |
| 88° | 0.7 | 0.6 | 0.7 | 0.7 | 0.9 | 1.6 | 2.3 | 2.2 | 7.1 | 35.6 | 46.1 |
| 89° | 0.0 | 0.0 | 0.0 | 0.1 | 0.2 | 0.2 | 0.4 | 0.4 | 3.2 | 25.5 | 33.6 |



REPORT NUMBER: P1449912
 CATALOG NUMBER: TWC60_T4_24W_4000K

CANDELA DISTRIBUTION (continued):

| | 165° | 180° | 195° | 210° | 225° | 240° | 255° | 270° | 285° | 300° | 315° |
|------|------|------|------|------|------|------|------|------|------|------|------|
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 91° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 92° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 93° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 94° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 95° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 96° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 97° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 98° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 99° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 100° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 101° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 102° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 103° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 104° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 105° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 106° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 107° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 108° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 109° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 110° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 111° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 112° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 113° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 114° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 115° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 116° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 117° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 118° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 119° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 120° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 121° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 122° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 123° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 124° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 125° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 126° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 127° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 128° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 129° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 130° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 131° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 132° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 133° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 134° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |



REPORT NUMBER: P1449912
 CATALOG NUMBER: TWC60_T4_24W_4000K

CANDELA DISTRIBUTION (continued):

| | 165° | 180° | 195° | 210° | 225° | 240° | 255° | 270° | 285° | 300° | 315° |
|------|------|------|------|------|------|------|------|------|------|------|------|
| 135° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 136° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 137° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 138° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 139° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 140° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 141° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 142° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 143° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 144° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 145° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 146° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 147° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 148° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 149° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 150° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 151° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 152° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 153° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 154° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 155° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 156° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 157° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 158° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 159° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 160° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 161° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 162° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 163° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 164° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 165° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 166° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 167° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 168° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 169° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 170° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 171° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 172° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 173° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 174° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 175° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 176° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 177° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 178° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 179° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |



REPORT NUMBER: P1449912
CATALOG NUMBER: TWC60_T4_24W_4000K

CANDELA DISTRIBUTION (continued):

| | | | | | | | | | | | |
|------|------|------|------|------|------|------|------|------|------|------|------|
| | 165° | 180° | 195° | 210° | 225° | 240° | 255° | 270° | 285° | 300° | 315° |
| 180° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |



REPORT NUMBER: P1449912
CATALOG NUMBER: TWC60_T4_24W_4000K

CANDELA DISTRIBUTION (continued):

| | 330° | 345° | 360° |
|-----|--------|--------|--------|
| 0° | 1259.3 | 1259.3 | 1259.3 |
| 1° | 1267.7 | 1269.0 | 1269.8 |
| 2° | 1276.2 | 1278.5 | 1280.0 |
| 3° | 1284.8 | 1287.7 | 1289.7 |
| 4° | 1292.3 | 1296.4 | 1297.0 |
| 5° | 1299.5 | 1304.8 | 1306.4 |
| 6° | 1306.6 | 1313.4 | 1315.4 |
| 7° | 1313.8 | 1321.9 | 1326.2 |
| 8° | 1321.9 | 1330.9 | 1334.7 |
| 9° | 1330.0 | 1340.7 | 1344.0 |
| 10° | 1337.9 | 1351.0 | 1355.2 |
| 11° | 1346.1 | 1360.7 | 1365.2 |
| 12° | 1353.5 | 1368.8 | 1372.4 |
| 13° | 1359.3 | 1375.1 | 1380.6 |
| 14° | 1363.3 | 1380.9 | 1386.0 |
| 15° | 1366.0 | 1384.8 | 1392.1 |
| 16° | 1368.5 | 1388.6 | 1396.7 |
| 17° | 1370.5 | 1392.5 | 1401.0 |
| 18° | 1372.3 | 1397.2 | 1406.1 |
| 19° | 1373.8 | 1401.2 | 1410.5 |
| 20° | 1375.9 | 1405.1 | 1414.4 |
| 21° | 1377.7 | 1408.4 | 1419.1 |
| 22° | 1379.7 | 1411.5 | 1422.8 |
| 23° | 1381.2 | 1414.7 | 1425.5 |
| 24° | 1382.5 | 1418.7 | 1430.2 |
| 25° | 1382.7 | 1421.6 | 1433.7 |
| 26° | 1383.8 | 1424.9 | 1438.0 |
| 27° | 1383.8 | 1428.5 | 1442.8 |
| 28° | 1384.9 | 1432.5 | 1447.0 |
| 29° | 1386.3 | 1435.8 | 1450.7 |
| 30° | 1386.6 | 1439.7 | 1456.2 |
| 31° | 1387.4 | 1443.8 | 1460.4 |
| 32° | 1388.5 | 1445.2 | 1462.9 |
| 33° | 1389.6 | 1446.2 | 1464.4 |
| 34° | 1389.4 | 1446.3 | 1463.5 |
| 35° | 1387.8 | 1445.9 | 1462.4 |
| 36° | 1385.4 | 1443.4 | 1461.4 |
| 37° | 1383.1 | 1441.4 | 1457.8 |
| 38° | 1379.5 | 1437.7 | 1455.2 |
| 39° | 1375.1 | 1433.3 | 1451.2 |
| 40° | 1370.4 | 1428.5 | 1445.7 |
| 41° | 1363.9 | 1421.3 | 1439.9 |
| 42° | 1357.1 | 1417.3 | 1436.9 |
| 43° | 1350.0 | 1411.1 | 1430.4 |
| 44° | 1342.5 | 1403.5 | 1422.0 |



REPORT NUMBER: P1449912
 CATALOG NUMBER: TWC60_T4_24W_4000K

CANDELA DISTRIBUTION (continued):

| | 330° | 345° | 360° |
|-----|--------|--------|--------|
| 45° | 1334.9 | 1394.9 | 1413.0 |
| 46° | 1326.3 | 1386.0 | 1407.5 |
| 47° | 1316.5 | 1377.5 | 1396.1 |
| 48° | 1306.1 | 1363.4 | 1378.3 |
| 49° | 1294.9 | 1344.4 | 1361.3 |
| 50° | 1279.6 | 1329.8 | 1347.1 |
| 51° | 1262.2 | 1315.4 | 1333.5 |
| 52° | 1245.7 | 1301.0 | 1318.3 |
| 53° | 1231.0 | 1285.4 | 1301.9 |
| 54° | 1213.6 | 1269.1 | 1286.2 |
| 55° | 1195.8 | 1255.6 | 1275.2 |
| 56° | 1178.4 | 1246.1 | 1266.3 |
| 57° | 1162.8 | 1237.8 | 1255.8 |
| 58° | 1151.4 | 1227.5 | 1246.4 |
| 59° | 1142.2 | 1219.7 | 1239.6 |
| 60° | 1133.6 | 1215.6 | 1238.2 |
| 61° | 1126.0 | 1215.9 | 1241.6 |
| 62° | 1122.3 | 1216.4 | 1241.6 |
| 63° | 1124.7 | 1210.9 | 1233.0 |
| 64° | 1130.3 | 1195.6 | 1214.5 |
| 65° | 1127.4 | 1167.6 | 1184.1 |
| 66° | 1110.1 | 1123.8 | 1133.5 |
| 67° | 1075.7 | 1062.7 | 1068.4 |
| 68° | 1015.4 | 984.5 | 987.9 |
| 69° | 929.8 | 887.5 | 878.8 |
| 70° | 826.6 | 785.6 | 768.8 |
| 71° | 716.8 | 708.9 | 701.2 |
| 72° | 628.0 | 659.3 | 659.2 |
| 73° | 573.4 | 622.3 | 620.7 |
| 74° | 541.6 | 586.0 | 581.4 |
| 75° | 513.2 | 547.2 | 544.9 |
| 76° | 485.6 | 508.0 | 513.8 |
| 77° | 455.6 | 470.7 | 488.0 |
| 78° | 421.0 | 439.0 | 466.3 |
| 79° | 387.9 | 418.4 | 451.9 |
| 80° | 354.9 | 399.9 | 432.6 |
| 81° | 322.7 | 378.3 | 383.9 |
| 82° | 291.3 | 345.7 | 334.9 |
| 83° | 253.6 | 304.7 | 285.9 |
| 84° | 209.6 | 263.4 | 236.3 |
| 85° | 168.7 | 219.3 | 188.1 |
| 86° | 138.7 | 167.2 | 132.0 |
| 87° | 103.9 | 116.1 | 91.6 |
| 88° | 67.9 | 67.1 | 49.8 |
| 89° | 38.8 | 32.1 | 25.3 |



REPORT NUMBER: P1449912
CATALOG NUMBER: TWC60_T4_24W_4000K

CANDELA DISTRIBUTION (continued):

| | 330° | 345° | 360° |
|------|------|------|------|
| 90° | 0.0 | 0.0 | 0.0 |
| 91° | 0.0 | 0.0 | 0.0 |
| 92° | 0.0 | 0.0 | 0.0 |
| 93° | 0.0 | 0.0 | 0.0 |
| 94° | 0.0 | 0.0 | 0.0 |
| 95° | 0.0 | 0.0 | 0.0 |
| 96° | 0.0 | 0.0 | 0.0 |
| 97° | 0.0 | 0.0 | 0.0 |
| 98° | 0.0 | 0.0 | 0.0 |
| 99° | 0.0 | 0.0 | 0.0 |
| 100° | 0.0 | 0.0 | 0.0 |
| 101° | 0.0 | 0.0 | 0.0 |
| 102° | 0.0 | 0.0 | 0.0 |
| 103° | 0.0 | 0.0 | 0.0 |
| 104° | 0.0 | 0.0 | 0.0 |
| 105° | 0.0 | 0.0 | 0.0 |
| 106° | 0.0 | 0.0 | 0.0 |
| 107° | 0.0 | 0.0 | 0.0 |
| 108° | 0.0 | 0.0 | 0.0 |
| 109° | 0.0 | 0.0 | 0.0 |
| 110° | 0.0 | 0.0 | 0.0 |
| 111° | 0.0 | 0.0 | 0.0 |
| 112° | 0.0 | 0.0 | 0.0 |
| 113° | 0.0 | 0.0 | 0.0 |
| 114° | 0.0 | 0.0 | 0.0 |
| 115° | 0.0 | 0.0 | 0.0 |
| 116° | 0.0 | 0.0 | 0.0 |
| 117° | 0.0 | 0.0 | 0.0 |
| 118° | 0.0 | 0.0 | 0.0 |
| 119° | 0.0 | 0.0 | 0.0 |
| 120° | 0.0 | 0.0 | 0.0 |
| 121° | 0.0 | 0.0 | 0.0 |
| 122° | 0.0 | 0.0 | 0.0 |
| 123° | 0.0 | 0.0 | 0.0 |
| 124° | 0.0 | 0.0 | 0.0 |
| 125° | 0.0 | 0.0 | 0.0 |
| 126° | 0.0 | 0.0 | 0.0 |
| 127° | 0.0 | 0.0 | 0.0 |
| 128° | 0.0 | 0.0 | 0.0 |
| 129° | 0.0 | 0.0 | 0.0 |
| 130° | 0.0 | 0.0 | 0.0 |
| 131° | 0.0 | 0.0 | 0.0 |
| 132° | 0.0 | 0.0 | 0.0 |
| 133° | 0.0 | 0.0 | 0.0 |
| 134° | 0.0 | 0.0 | 0.0 |



REPORT NUMBER: P1449912
CATALOG NUMBER: TWC60_T4_24W_4000K

CANDELA DISTRIBUTION (continued):

| | 330° | 345° | 360° |
|------|------|------|------|
| 135° | 0.0 | 0.0 | 0.0 |
| 136° | 0.0 | 0.0 | 0.0 |
| 137° | 0.0 | 0.0 | 0.0 |
| 138° | 0.0 | 0.0 | 0.0 |
| 139° | 0.0 | 0.0 | 0.0 |
| 140° | 0.0 | 0.0 | 0.0 |
| 141° | 0.0 | 0.0 | 0.0 |
| 142° | 0.0 | 0.0 | 0.0 |
| 143° | 0.0 | 0.0 | 0.0 |
| 144° | 0.0 | 0.0 | 0.0 |
| 145° | 0.0 | 0.0 | 0.0 |
| 146° | 0.0 | 0.0 | 0.0 |
| 147° | 0.0 | 0.0 | 0.0 |
| 148° | 0.0 | 0.0 | 0.0 |
| 149° | 0.0 | 0.0 | 0.0 |
| 150° | 0.0 | 0.0 | 0.0 |
| 151° | 0.0 | 0.0 | 0.0 |
| 152° | 0.0 | 0.0 | 0.0 |
| 153° | 0.0 | 0.0 | 0.0 |
| 154° | 0.0 | 0.0 | 0.0 |
| 155° | 0.0 | 0.0 | 0.0 |
| 156° | 0.0 | 0.0 | 0.0 |
| 157° | 0.0 | 0.0 | 0.0 |
| 158° | 0.0 | 0.0 | 0.0 |
| 159° | 0.0 | 0.0 | 0.0 |
| 160° | 0.0 | 0.0 | 0.0 |
| 161° | 0.0 | 0.0 | 0.0 |
| 162° | 0.0 | 0.0 | 0.0 |
| 163° | 0.0 | 0.0 | 0.0 |
| 164° | 0.0 | 0.0 | 0.0 |
| 165° | 0.0 | 0.0 | 0.0 |
| 166° | 0.0 | 0.0 | 0.0 |
| 167° | 0.0 | 0.0 | 0.0 |
| 168° | 0.0 | 0.0 | 0.0 |
| 169° | 0.0 | 0.0 | 0.0 |
| 170° | 0.0 | 0.0 | 0.0 |
| 171° | 0.0 | 0.0 | 0.0 |
| 172° | 0.0 | 0.0 | 0.0 |
| 173° | 0.0 | 0.0 | 0.0 |
| 174° | 0.0 | 0.0 | 0.0 |
| 175° | 0.0 | 0.0 | 0.0 |
| 176° | 0.0 | 0.0 | 0.0 |
| 177° | 0.0 | 0.0 | 0.0 |
| 178° | 0.0 | 0.0 | 0.0 |
| 179° | 0.0 | 0.0 | 0.0 |

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

Scaled Data Report



REPORT NUMBER: P1449912
CATALOG NUMBER: TWC60_T4_24W_4000K

CANDELA DISTRIBUTION (continued):

| | | | |
|------|------|------|------|
| | 330° | 345° | 360° |
| 180° | 0.0 | 0.0 | 0.0 |

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

Report Prepared for

Cooper Lighting Solutions

Lumark

Report Number: SP1-2601-659-2

Test Date: 02/12/2026

Luminaire Tested: MWP2460W34VDDKYYAD-T4-24W-4000K

Data in this report applies to families of products including ;MWP2460W34VDDKYYAD

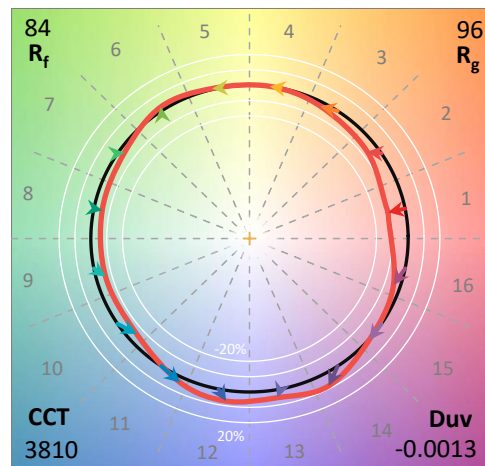
Test Information

Test Method: LM-79-2019
 Report Number: SP1-2601-659-2
 Test Lab: COOPER LIGHTING SOLUTIONS
 Photometer: SP1 - 76IN SPHERE
 Measurement Geometry: 4π
 Issue Date: 02/16/2026
 Manufacturer: COOPER LIGHTING SOLUTIONS
 Product Line: Lumark
 Catalog Number: **MWP2460W34VDDKYYAD-T4-24W-4000K**
 Description: Mester Wedge, at T4 beam setting, 24W output, 4000K

Spectral Parameters

CCT (K): 3810
 CIE u': 0.2295
 CIE v': 0.5035
 Duv: -0.0013
 CIE x: 0.3881
 CIE y: 0.3785
 CIE z: 0.2334
 Peak Wavelength (nm): 453
 Dominant Wavelength (nm): 580
 Purity: 30.07368
 R_f: 84.4
 R_g: 96.5

| | | | |
|-----------|------|------|------|
| CRI (Ra): | 84.5 | | |
| R1: | 83.7 | R9: | 15.9 |
| R2: | 90.7 | R10: | 77.2 |
| R3: | 95.1 | R11: | 83.0 |
| R4: | 83.6 | R12: | 62.4 |
| R5: | 83.4 | R13: | 85.6 |
| R6: | 86.7 | R14: | 97.4 |
| R7: | 86.3 | R15: | 77.9 |
| R8: | 66.5 | | |



Test Conditions

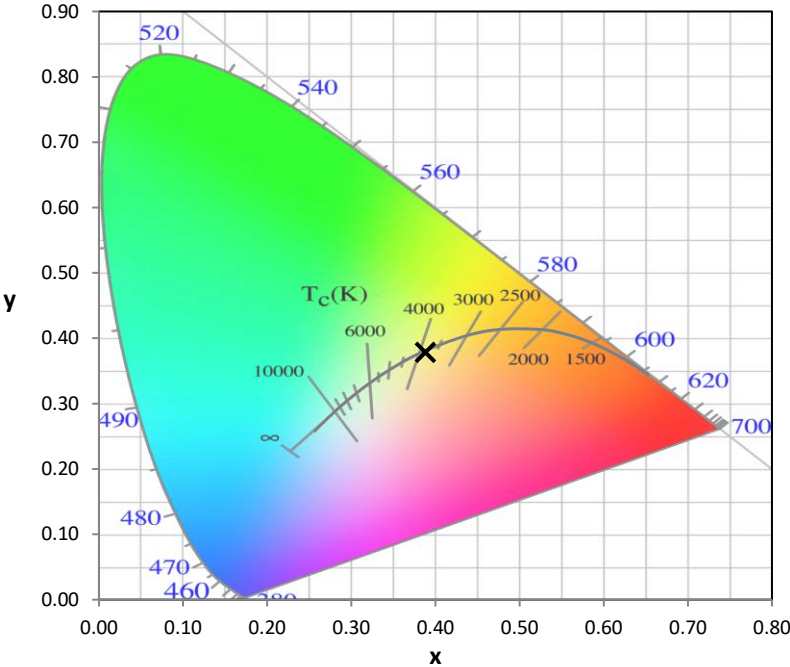
Stabilization Time: 20M
 Operation Time: 1H 20M
 Sphere Temperature (°C): 24.8

REPORT NUMBER: SP1-2601-659-2

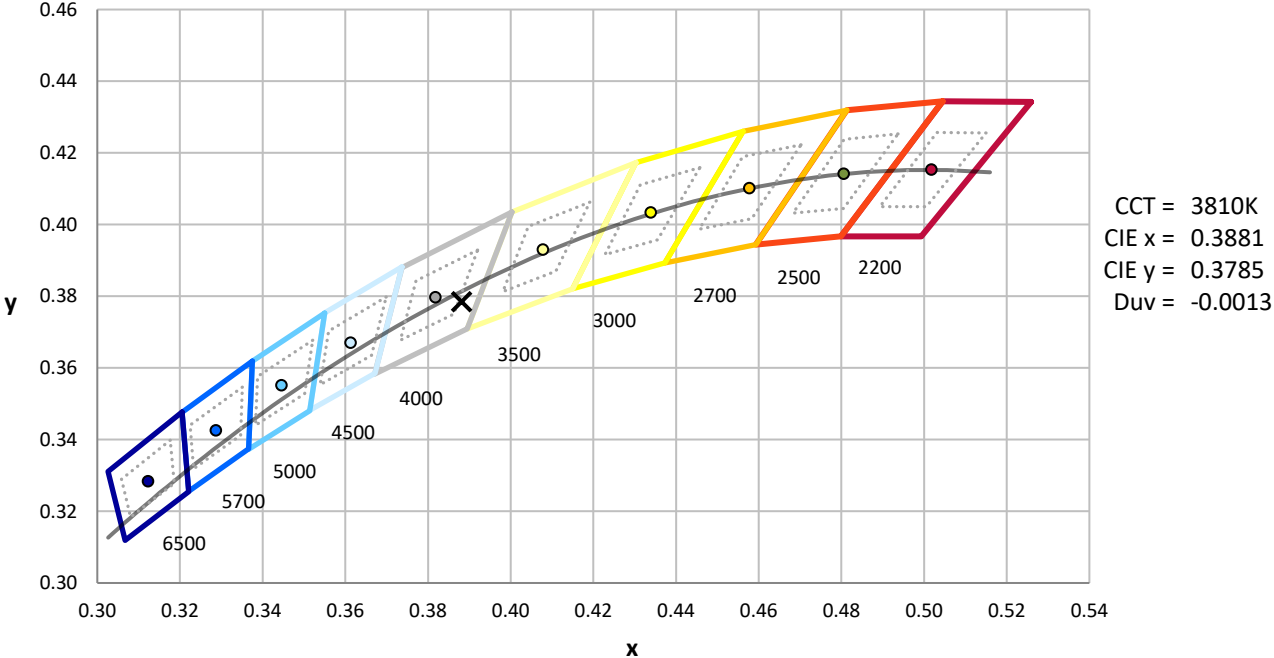
| Measurement and Test Equipment | | | |
|--------------------------------|-----------------------|------------------|----------------------|
| Instrument | Identification Number | Calibration Date | Calibration Due Date |
| Photometer | 76INCH SPHERE IN0058 | 12/16/2025 | 6/16/2026 |
| Power Meter | XITRON INXT2011004 | 10/21/2025 | 10/21/2026 |
| AC Power Source | CHROMA 61603 IN0063 | 10/21/2025 | 10/21/2026 |
| DC Power Source | AGILENT E3634A IN0208 | 10/21/2025 | 10/21/2026 |
| Sphere Thermometer | ONSET IN0085 | 10/21/2025 | 10/21/2026 |
| Room Thermometer | ONSET IN0046 | 10/21/2025 | 10/21/2026 |

REPORT NUMBER: SP1-2601-659-2

CIE 1931 Chromaticity Diagram



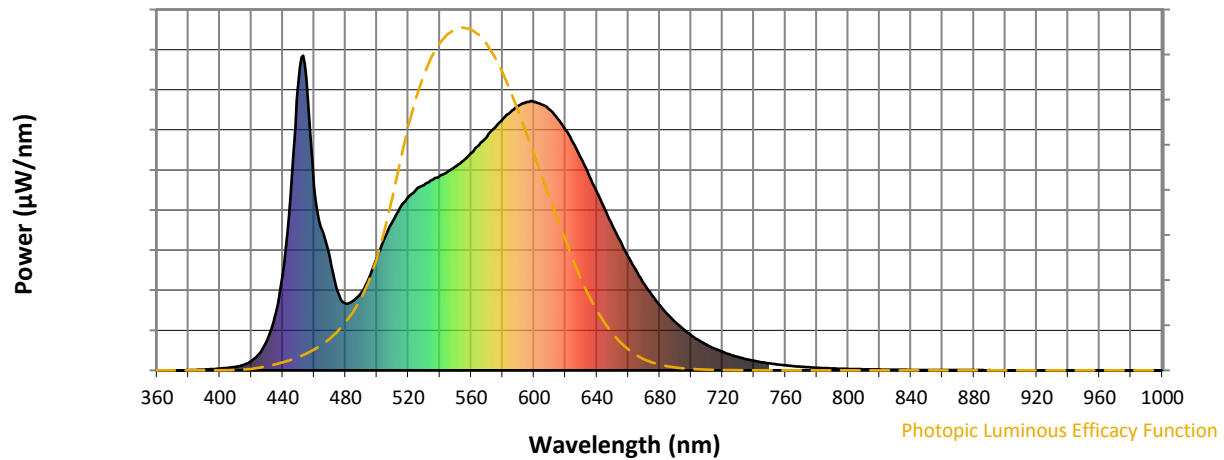
CIE 1931 Chromaticity Diagram with 2017 ANSI 7-Step and 4-Step Quadrangles



Point lies inside the ANSI 4000K 7-step quadrangle

REPORT NUMBER: SP1-2601-659-2

Photopic Flux vs. Wavelength

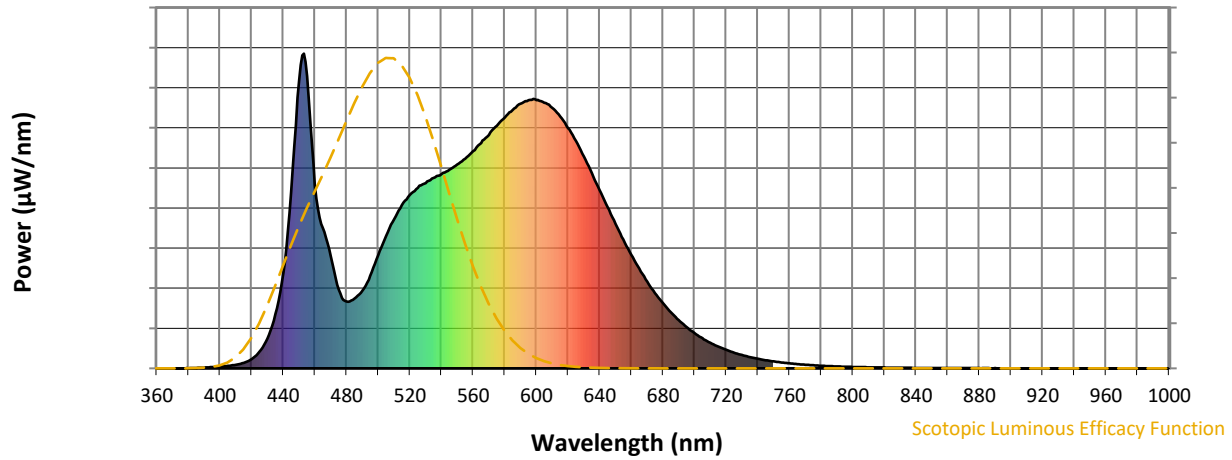


Photopic Lumens: NR

| λ (nm) | Power W [^] /nm | Lumens (ϕ /nm) | λ (nm) | Power W [^] /nm | Lumens (ϕ /nm) | λ (nm) | Power W [^] /nm | Lumens (ϕ /nm) | λ (nm) | Power W [^] /nm | Lumens (ϕ /nm) | λ (nm) | Power W [^] /nm | Lumens (ϕ /nm) |
|-------------------|-----------------------------|-------------------------|-------------------|-----------------------------|-------------------------|-------------------|-----------------------------|-------------------------|-------------------|-----------------------------|-------------------------|-------------------|-----------------------------|-------------------------|
| 360 | 0 | NR | 490 | 247 | NR | 620 | 764 | NR | 750 | 22 | NR | 880 | 1 | NR |
| 365 | 0 | NR | 495 | 294 | NR | 625 | 723 | NR | 755 | 19 | NR | 885 | 1 | NR |
| 370 | 0 | NR | 500 | 359 | NR | 630 | 674 | NR | 760 | 16 | NR | 890 | 1 | NR |
| 375 | 0 | NR | 505 | 421 | NR | 635 | 620 | NR | 765 | 14 | NR | 895 | 0 | NR |
| 380 | 1 | NR | 510 | 474 | NR | 640 | 566 | NR | 770 | 12 | NR | 900 | 0 | NR |
| 385 | 1 | NR | 515 | 518 | NR | 645 | 512 | NR | 775 | 10 | NR | 905 | 0 | NR |
| 390 | 3 | NR | 520 | 552 | NR | 650 | 459 | NR | 780 | 8 | NR | 910 | 0 | NR |
| 395 | 4 | NR | 525 | 574 | NR | 655 | 410 | NR | 785 | 7 | NR | 915 | 0 | NR |
| 400 | 6 | NR | 530 | 589 | NR | 660 | 361 | NR | 790 | 6 | NR | 920 | 0 | NR |
| 405 | 8 | NR | 535 | 605 | NR | 665 | 317 | NR | 795 | 5 | NR | 925 | 0 | NR |
| 410 | 11 | NR | 540 | 617 | NR | 670 | 276 | NR | 800 | 5 | NR | 930 | 0 | NR |
| 415 | 18 | NR | 545 | 632 | NR | 675 | 239 | NR | 805 | 4 | NR | 935 | 0 | NR |
| 420 | 30 | NR | 550 | 648 | NR | 680 | 207 | NR | 810 | 3 | NR | 940 | 0 | NR |
| 425 | 53 | NR | 555 | 666 | NR | 685 | 178 | NR | 815 | 3 | NR | 945 | 0 | NR |
| 430 | 95 | NR | 560 | 690 | NR | 690 | 153 | NR | 820 | 3 | NR | 950 | 0 | NR |
| 435 | 173 | NR | 565 | 716 | NR | 695 | 131 | NR | 825 | 2 | NR | 955 | 0 | NR |
| 440 | 304 | NR | 570 | 742 | NR | 700 | 112 | NR | 830 | 2 | NR | 960 | 0 | NR |
| 445 | 559 | NR | 575 | 771 | NR | 705 | 95 | NR | 835 | 2 | NR | 965 | 0 | NR |
| 450 | 915 | NR | 580 | 798 | NR | 710 | 81 | NR | 840 | 1 | NR | 970 | 0 | NR |
| 455 | 929 | NR | 585 | 820 | NR | 715 | 69 | NR | 845 | 1 | NR | 975 | 0 | NR |
| 460 | 582 | NR | 590 | 841 | NR | 720 | 59 | NR | 850 | 1 | NR | 980 | 0 | NR |
| 465 | 446 | NR | 595 | 852 | NR | 725 | 50 | NR | 855 | 1 | NR | 985 | 0 | NR |
| 470 | 356 | NR | 600 | 852 | NR | 730 | 42 | NR | 860 | 1 | NR | 990 | 0 | NR |
| 475 | 250 | NR | 605 | 845 | NR | 735 | 36 | NR | 865 | 1 | NR | 995 | 0 | NR |
| 480 | 212 | NR | 610 | 827 | NR | 740 | 30 | NR | 870 | 1 | NR | 1000 | 0 | NR |
| 485 | 221 | NR | 615 | 801 | NR | 745 | 26 | NR | 875 | 1 | NR | | | |

REPORT NUMBER: SP1-2601-659-2

Scotopic Flux vs. Wavelength



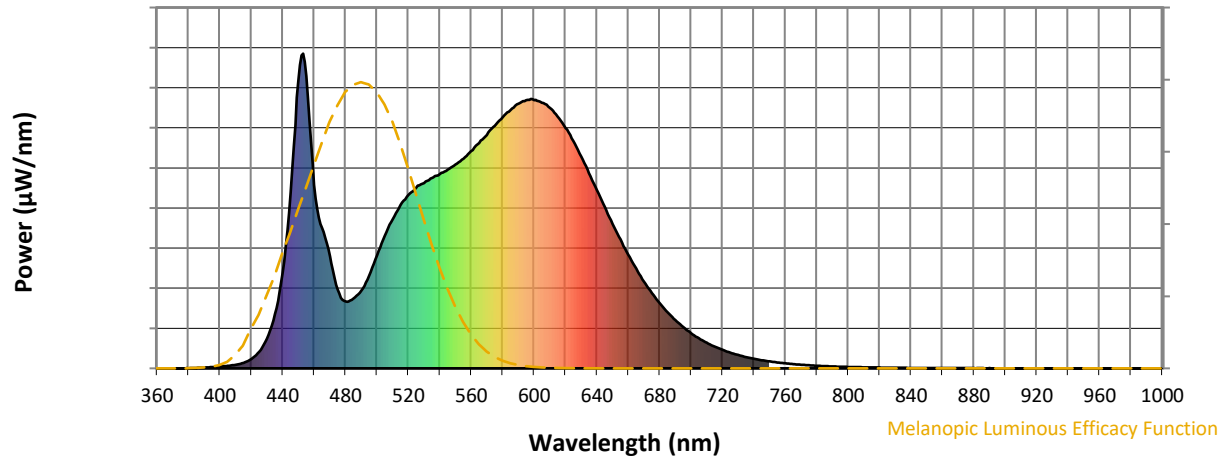
Scotopic Lumens: NR

S/P: 1.64

| λ (nm) | Power W [^] /nm | Lumens (ϕ /nm) | λ (nm) | Power W [^] /nm | Lumens (ϕ /nm) | λ (nm) | Power W [^] /nm | Lumens (ϕ /nm) | λ (nm) | Power W [^] /nm | Lumens (ϕ /nm) | λ (nm) | Power W [^] /nm | Lumens (ϕ /nm) |
|----------------|--------------------------|----------------------|----------------|--------------------------|----------------------|----------------|--------------------------|----------------------|----------------|--------------------------|----------------------|----------------|--------------------------|----------------------|
| 360 | 0 | NR | 490 | 247 | NR | 620 | 764 | NR | 750 | 22 | NR | 880 | 1 | NR |
| 365 | 0 | NR | 495 | 294 | NR | 625 | 723 | NR | 755 | 19 | NR | 885 | 1 | NR |
| 370 | 0 | NR | 500 | 359 | NR | 630 | 674 | NR | 760 | 16 | NR | 890 | 1 | NR |
| 375 | 0 | NR | 505 | 421 | NR | 635 | 620 | NR | 765 | 14 | NR | 895 | 0 | NR |
| 380 | 1 | NR | 510 | 474 | NR | 640 | 566 | NR | 770 | 12 | NR | 900 | 0 | NR |
| 385 | 1 | NR | 515 | 518 | NR | 645 | 512 | NR | 775 | 10 | NR | 905 | 0 | NR |
| 390 | 3 | NR | 520 | 552 | NR | 650 | 459 | NR | 780 | 8 | NR | 910 | 0 | NR |
| 395 | 4 | NR | 525 | 574 | NR | 655 | 410 | NR | 785 | 7 | NR | 915 | 0 | NR |
| 400 | 6 | NR | 530 | 589 | NR | 660 | 361 | NR | 790 | 6 | NR | 920 | 0 | NR |
| 405 | 8 | NR | 535 | 605 | NR | 665 | 317 | NR | 795 | 5 | NR | 925 | 0 | NR |
| 410 | 11 | NR | 540 | 617 | NR | 670 | 276 | NR | 800 | 5 | NR | 930 | 0 | NR |
| 415 | 18 | NR | 545 | 632 | NR | 675 | 239 | NR | 805 | 4 | NR | 935 | 0 | NR |
| 420 | 30 | NR | 550 | 648 | NR | 680 | 207 | NR | 810 | 3 | NR | 940 | 0 | NR |
| 425 | 53 | NR | 555 | 666 | NR | 685 | 178 | NR | 815 | 3 | NR | 945 | 0 | NR |
| 430 | 95 | NR | 560 | 690 | NR | 690 | 153 | NR | 820 | 3 | NR | 950 | 0 | NR |
| 435 | 173 | NR | 565 | 716 | NR | 695 | 131 | NR | 825 | 2 | NR | 955 | 0 | NR |
| 440 | 304 | NR | 570 | 742 | NR | 700 | 112 | NR | 830 | 2 | NR | 960 | 0 | NR |
| 445 | 559 | NR | 575 | 771 | NR | 705 | 95 | NR | 835 | 2 | NR | 965 | 0 | NR |
| 450 | 915 | NR | 580 | 798 | NR | 710 | 81 | NR | 840 | 1 | NR | 970 | 0 | NR |
| 455 | 929 | NR | 585 | 820 | NR | 715 | 69 | NR | 845 | 1 | NR | 975 | 0 | NR |
| 460 | 582 | NR | 590 | 841 | NR | 720 | 59 | NR | 850 | 1 | NR | 980 | 0 | NR |
| 465 | 446 | NR | 595 | 852 | NR | 725 | 50 | NR | 855 | 1 | NR | 985 | 0 | NR |
| 470 | 356 | NR | 600 | 852 | NR | 730 | 42 | NR | 860 | 1 | NR | 990 | 0 | NR |
| 475 | 250 | NR | 605 | 845 | NR | 735 | 36 | NR | 865 | 1 | NR | 995 | 0 | NR |
| 480 | 212 | NR | 610 | 827 | NR | 740 | 30 | NR | 870 | 1 | NR | 1000 | 0 | NR |
| 485 | 221 | NR | 615 | 801 | NR | 745 | 26 | NR | 875 | 1 | NR | | | |

REPORT NUMBER: SP1-2601-659-2

Melanopic Flux vs. Wavelength



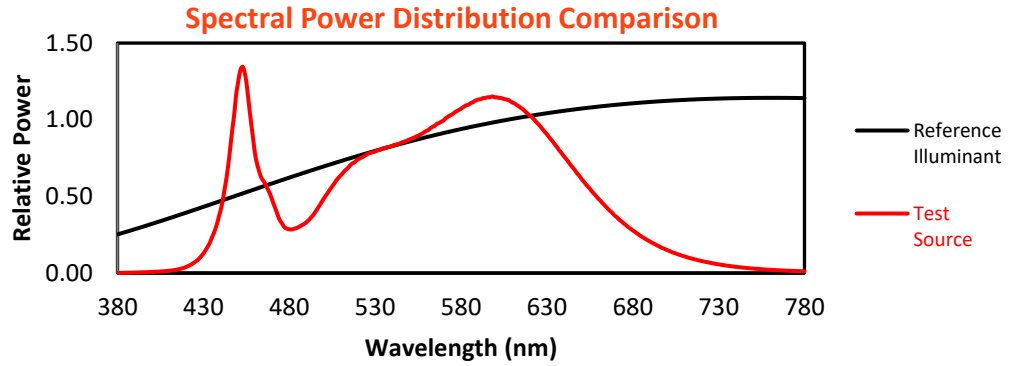
Melanopic Lumens: NR

M/P: 3.35

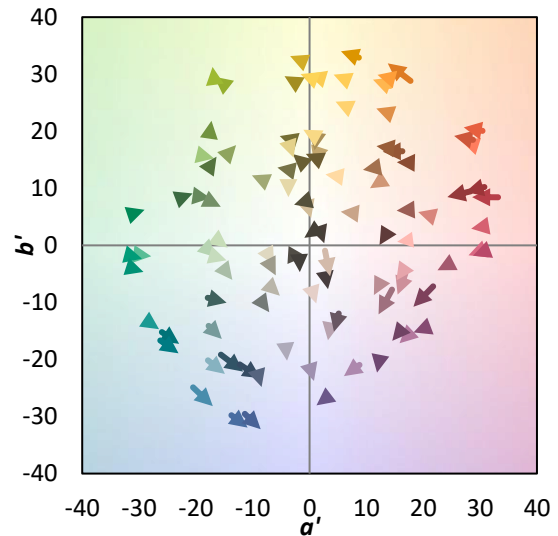
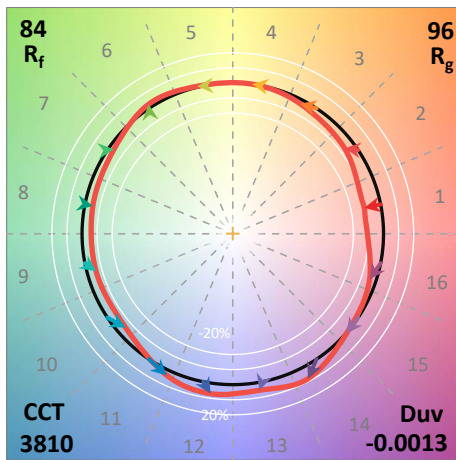
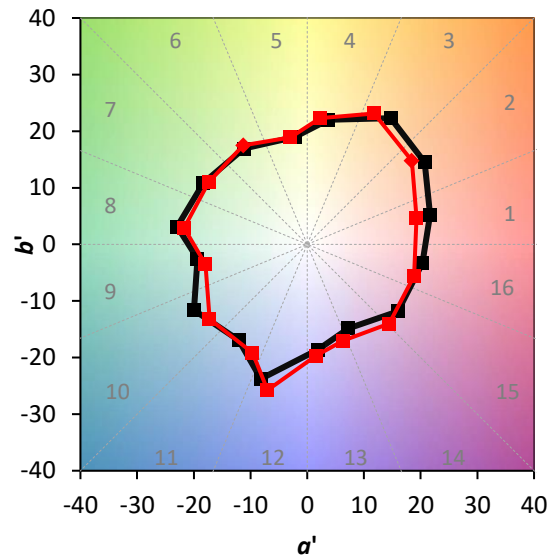
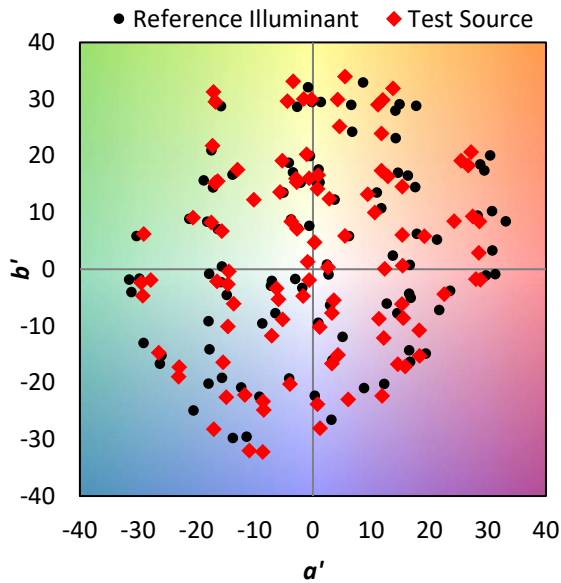
| λ (nm) | Power W [^] /nm | Lumens (φ/nm) | λ (nm) | Power W [^] /nm | Lumens (φ/nm) | λ (nm) | Power W [^] /nm | Lumens (φ/nm) | λ (nm) | Power W [^] /nm | Lumens (φ/nm) | λ (nm) | Power W [^] /nm | Lumens (φ/nm) |
|--------|--------------------------|---------------|--------|--------------------------|---------------|--------|--------------------------|---------------|--------|--------------------------|---------------|--------|--------------------------|---------------|
| 360 | 0 | NR | 490 | 247 | NR | 620 | 764 | NR | 750 | 22 | NR | 880 | 1 | NR |
| 365 | 0 | NR | 495 | 294 | NR | 625 | 723 | NR | 755 | 19 | NR | 885 | 1 | NR |
| 370 | 0 | NR | 500 | 359 | NR | 630 | 674 | NR | 760 | 16 | NR | 890 | 1 | NR |
| 375 | 0 | NR | 505 | 421 | NR | 635 | 620 | NR | 765 | 14 | NR | 895 | 0 | NR |
| 380 | 1 | NR | 510 | 474 | NR | 640 | 566 | NR | 770 | 12 | NR | 900 | 0 | NR |
| 385 | 1 | NR | 515 | 518 | NR | 645 | 512 | NR | 775 | 10 | NR | 905 | 0 | NR |
| 390 | 3 | NR | 520 | 552 | NR | 650 | 459 | NR | 780 | 8 | NR | 910 | 0 | NR |
| 395 | 4 | NR | 525 | 574 | NR | 655 | 410 | NR | 785 | 7 | NR | 915 | 0 | NR |
| 400 | 6 | NR | 530 | 589 | NR | 660 | 361 | NR | 790 | 6 | NR | 920 | 0 | NR |
| 405 | 8 | NR | 535 | 605 | NR | 665 | 317 | NR | 795 | 5 | NR | 925 | 0 | NR |
| 410 | 11 | NR | 540 | 617 | NR | 670 | 276 | NR | 800 | 5 | NR | 930 | 0 | NR |
| 415 | 18 | NR | 545 | 632 | NR | 675 | 239 | NR | 805 | 4 | NR | 935 | 0 | NR |
| 420 | 30 | NR | 550 | 648 | NR | 680 | 207 | NR | 810 | 3 | NR | 940 | 0 | NR |
| 425 | 53 | NR | 555 | 666 | NR | 685 | 178 | NR | 815 | 3 | NR | 945 | 0 | NR |
| 430 | 95 | NR | 560 | 690 | NR | 690 | 153 | NR | 820 | 3 | NR | 950 | 0 | NR |
| 435 | 173 | NR | 565 | 716 | NR | 695 | 131 | NR | 825 | 2 | NR | 955 | 0 | NR |
| 440 | 304 | NR | 570 | 742 | NR | 700 | 112 | NR | 830 | 2 | NR | 960 | 0 | NR |
| 445 | 559 | NR | 575 | 771 | NR | 705 | 95 | NR | 835 | 2 | NR | 965 | 0 | NR |
| 450 | 915 | NR | 580 | 798 | NR | 710 | 81 | NR | 840 | 1 | NR | 970 | 0 | NR |
| 455 | 929 | NR | 585 | 820 | NR | 715 | 69 | NR | 845 | 1 | NR | 975 | 0 | NR |
| 460 | 582 | NR | 590 | 841 | NR | 720 | 59 | NR | 850 | 1 | NR | 980 | 0 | NR |
| 465 | 446 | NR | 595 | 852 | NR | 725 | 50 | NR | 855 | 1 | NR | 985 | 0 | NR |
| 470 | 356 | NR | 600 | 852 | NR | 730 | 42 | NR | 860 | 1 | NR | 990 | 0 | NR |
| 475 | 250 | NR | 605 | 845 | NR | 735 | 36 | NR | 865 | 1 | NR | 995 | 0 | NR |
| 480 | 212 | NR | 610 | 827 | NR | 740 | 30 | NR | 870 | 1 | NR | 1000 | 0 | NR |
| 485 | 221 | NR | 615 | 801 | NR | 745 | 26 | NR | 875 | 1 | NR | | | |

Summary

$R_f = 84.4$
 $R_g = 96.5$
 CIE $R_a = 84.5$
 $R_9 = 15.9$

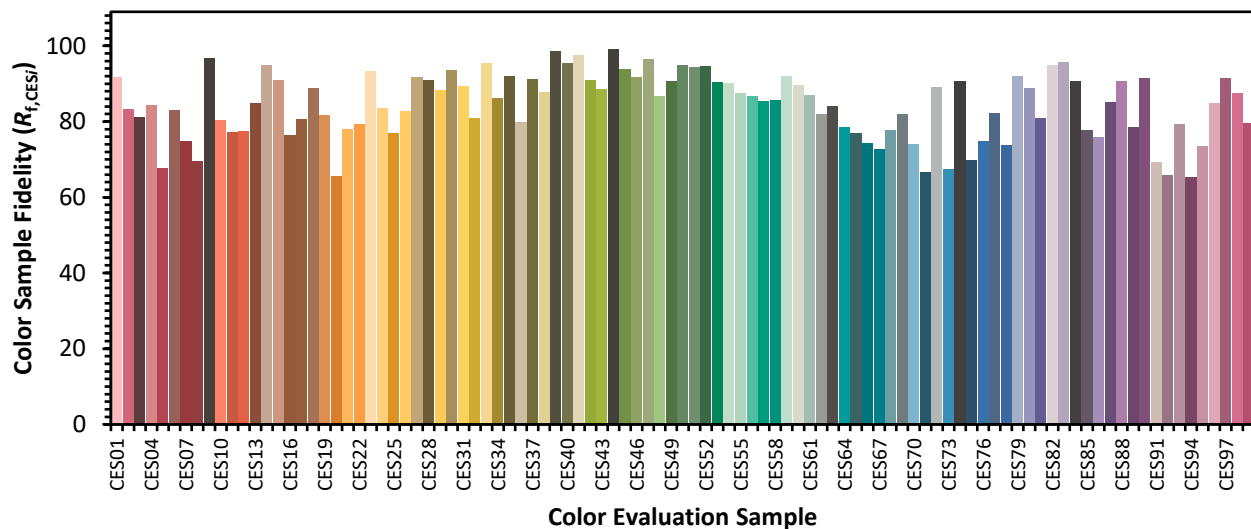


Color Vector Graphics

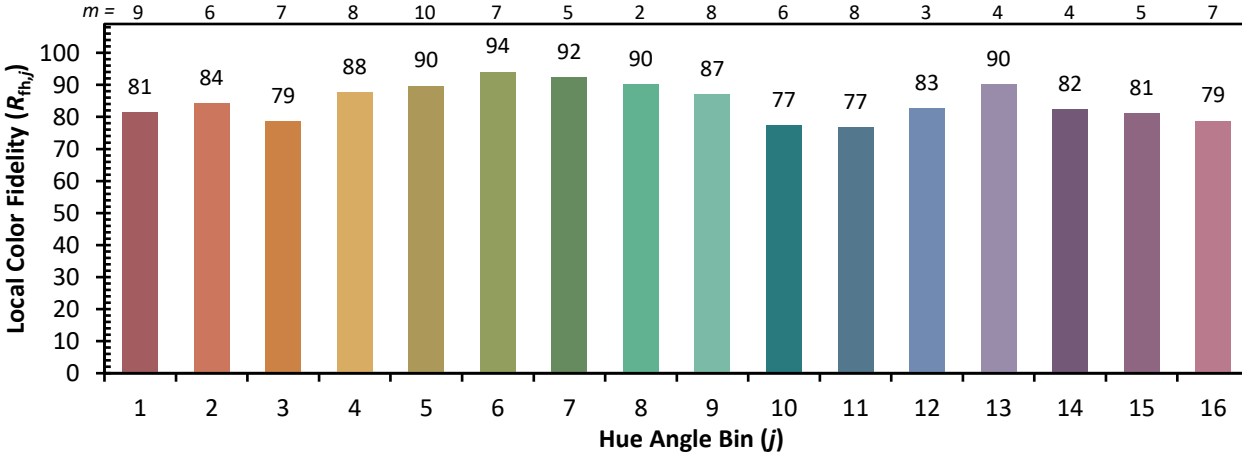
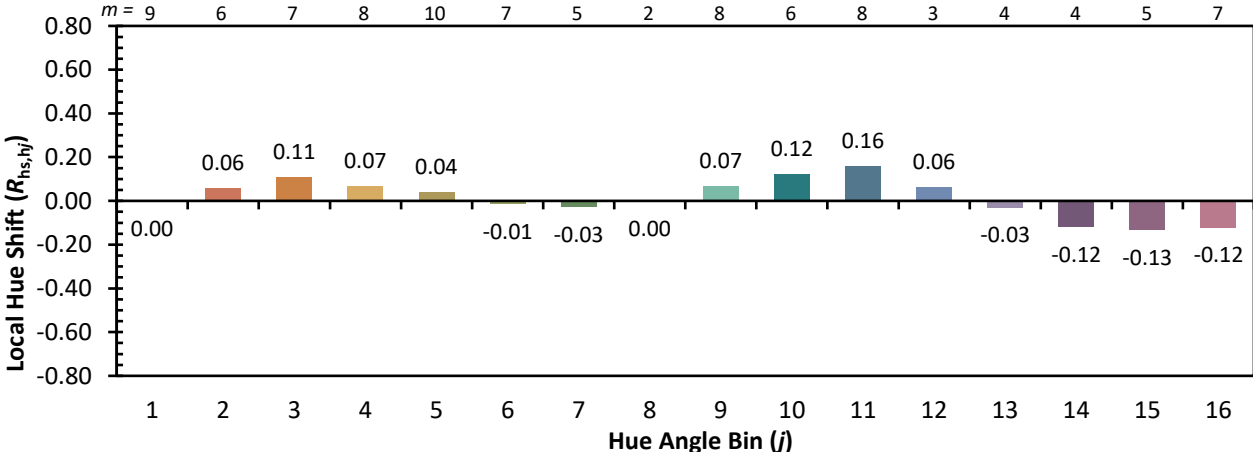
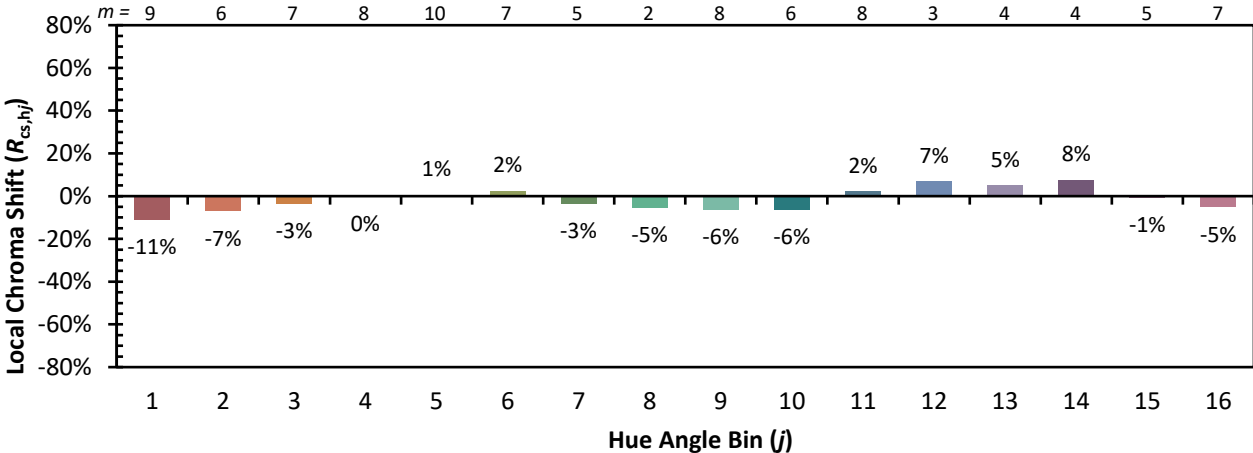


Individual Sample Fidelity Index ($R_{f,i}$)

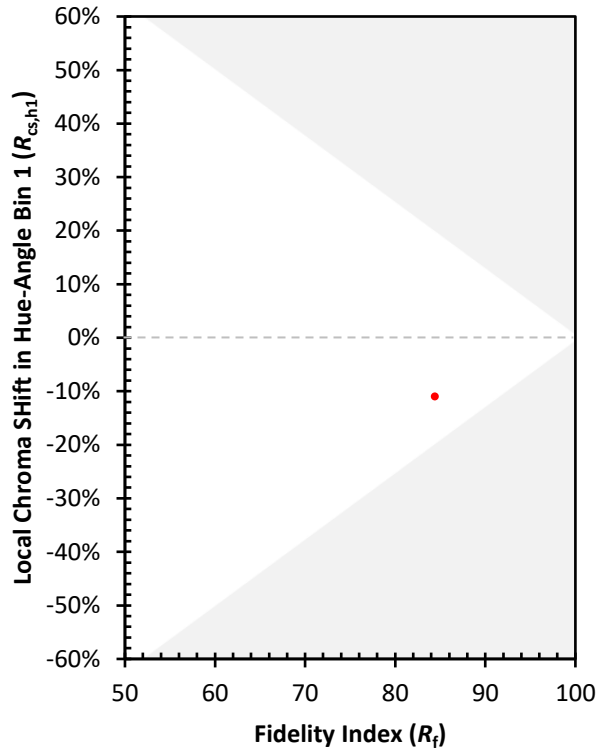
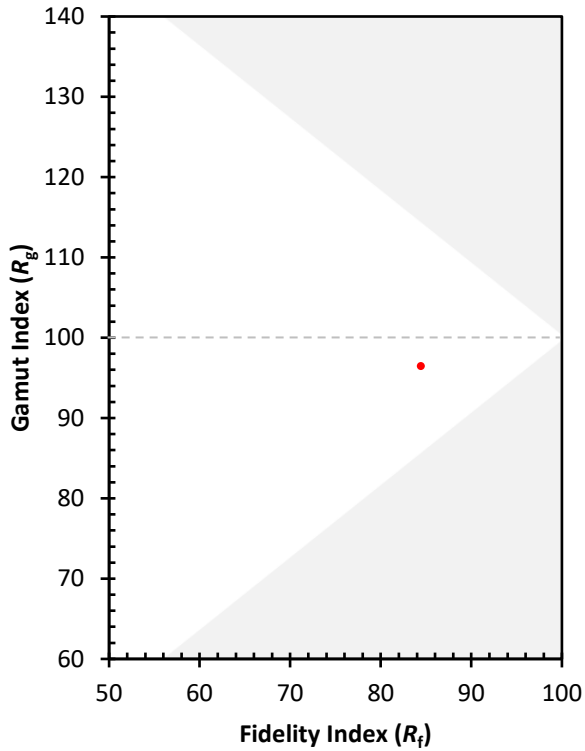
| | | | |
|------------|------------|------------|------------|
| CES01 = 86 | CES26 = 83 | CES51 = 94 | CES76 = 75 |
| CES02 = 62 | CES27 = 92 | CES52 = 95 | CES77 = 82 |
| CES03 = 31 | CES28 = 91 | CES53 = 90 | CES78 = 74 |
| CES04 = 70 | CES29 = 88 | CES54 = 90 | CES79 = 92 |
| CES05 = 48 | CES30 = 94 | CES55 = 88 | CES80 = 89 |
| CES06 = 51 | CES31 = 89 | CES56 = 87 | CES81 = 81 |
| CES07 = 41 | CES32 = 81 | CES57 = 86 | CES82 = 95 |
| CES08 = 40 | CES33 = 95 | CES58 = 86 | CES83 = 96 |
| CES09 = 29 | CES34 = 86 | CES59 = 92 | CES84 = 91 |
| CES10 = 75 | CES35 = 92 | CES60 = 90 | CES85 = 78 |
| CES11 = 57 | CES36 = 80 | CES61 = 87 | CES86 = 76 |
| CES12 = 63 | CES37 = 91 | CES62 = 82 | CES87 = 85 |
| CES13 = 43 | CES38 = 88 | CES63 = 84 | CES88 = 91 |
| CES14 = 74 | CES39 = 98 | CES64 = 79 | CES89 = 78 |
| CES15 = 71 | CES40 = 96 | CES65 = 77 | CES90 = 92 |
| CES16 = 47 | CES41 = 98 | CES66 = 74 | CES91 = 69 |
| CES17 = 49 | CES42 = 91 | CES67 = 73 | CES92 = 66 |
| CES18 = 56 | CES43 = 89 | CES68 = 78 | CES93 = 79 |
| CES19 = 71 | CES44 = 99 | CES69 = 82 | CES94 = 65 |
| CES20 = 65 | CES45 = 94 | CES70 = 74 | CES95 = 74 |
| CES21 = 86 | CES46 = 92 | CES71 = 67 | CES96 = 85 |
| CES22 = 78 | CES47 = 97 | CES72 = 89 | CES97 = 91 |
| CES23 = 91 | CES48 = 87 | CES73 = 68 | CES98 = 87 |
| CES24 = 90 | CES49 = 91 | CES74 = 91 | CES99 = 80 |
| CES25 = 71 | CES50 = 95 | CES75 = 70 | |



Color Rendition by Hue-Angle Bin



Measure Comparisons



(END OF REPORT)