



Report of Test

LLIA001574-010A

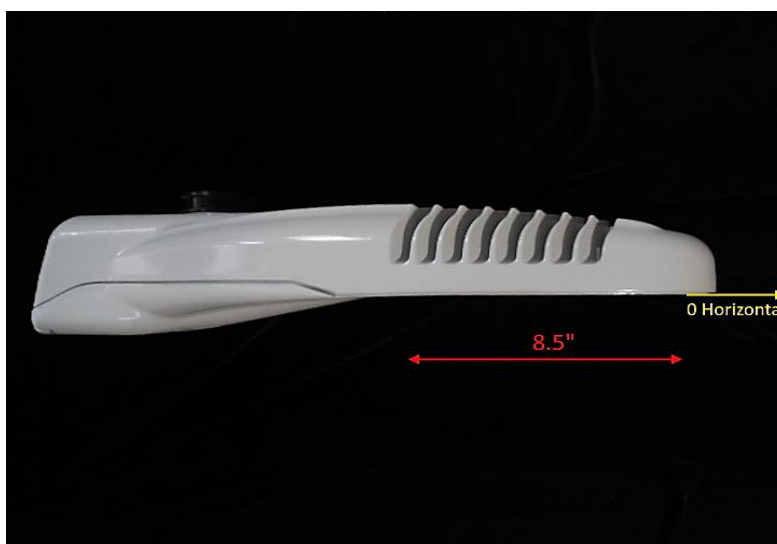
Roadway/Area Light Distribution Photometry Test Report

Catalog Number: NXT-24S-5-X-4AH-5-XX-4-XX-X-XX-X

Pole/arm mounted, grey painted cast aluminum housing and driver compartment cover, one circuit board and clear plastic lens with optic below each LED, clear flat glass enclosure.

24 white LEDs

Osram OT100W/UNV/800C/2DIM/P6 LED driver, Littlefuse LSP10277SBX3902 surge suppressor, 525mA



Prepared For:
LED Roadway Lighting
84 Chain Lake Drive
Suite 403
Halifax, Nova Scotia B3S 1A2, Canada

| Performance Summary | | | |
|---------------------|----------|----------------|---------------|
| Input Voltage | 120.0 V | Luminous Flux | 4876.6 Lumens |
| Input Current | 0.3535 A | Total Efficacy | 116.2 Lm/W |
| Input Power | 41.97 W | | |
| Frequency | 60.00 Hz | Roadway Throw | Short |
| Power Factor | 0.990 | Roadway Type | Type IV |
| Current THD | 2.5 % | IES BUG Rating | B2 - U0 - G2 |

This test report was issued by LightLab International Allentown, LLC without alterations or erasures.

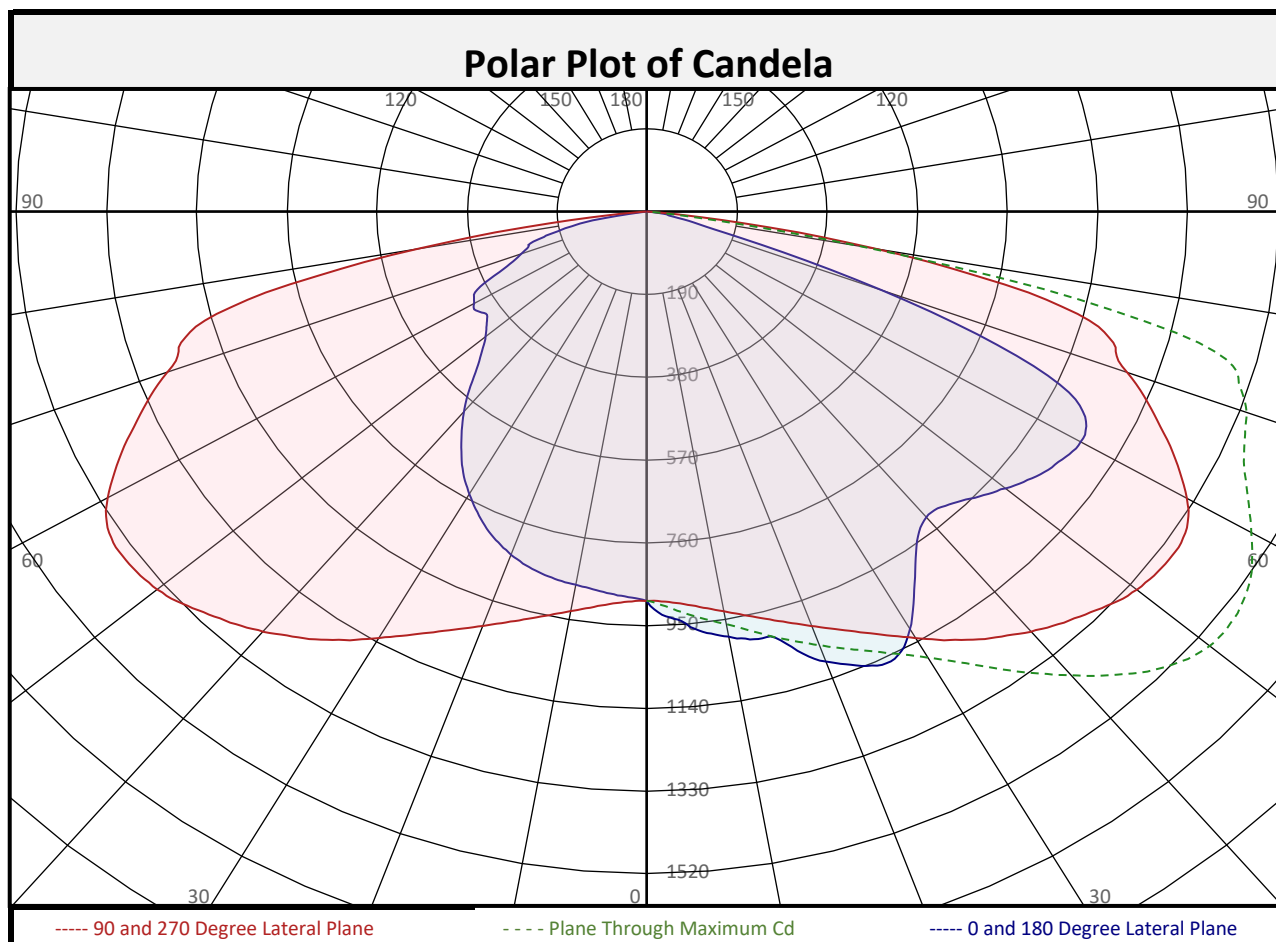
Test date: 11/15/2021

Report date: 11/16/2021

Signed: _____



Report of Test LLIA001574-010A

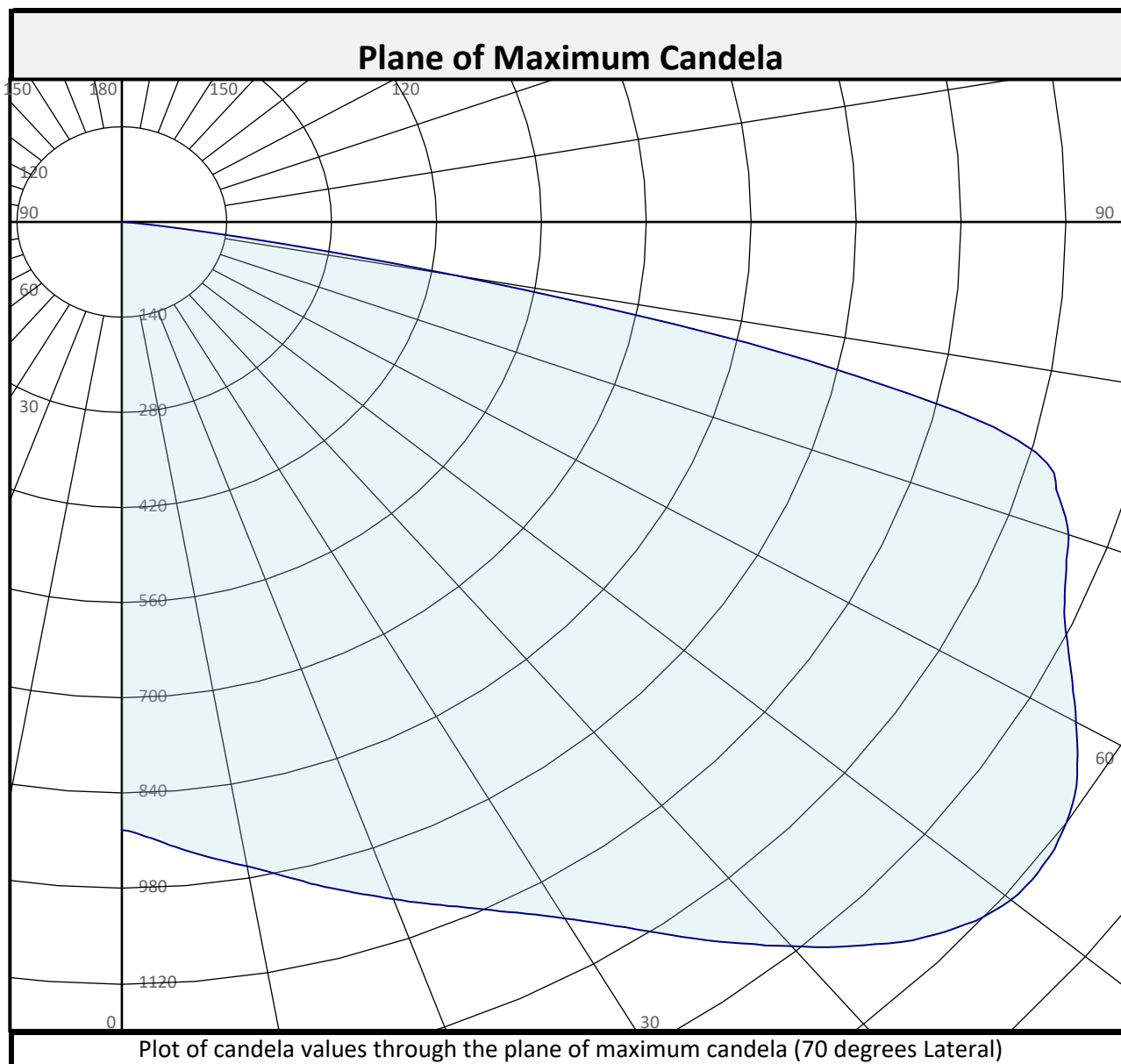


| Zonal Flux Summary | | | | | | | | | | |
|--------------------|------------------|---------------------|--|--------------------|------------------|---------------------|--|--------------------|------------------|---------------------|
| Zone (Deg Vert) | Flux (Lumens) | Percent of Total | | Zone (Deg Vert) | Flux (Lumens) | Percent of Total | | Zone (Deg Vert) | Flux (Lumens) | Percent of Total |
| 0-10 | 87.9 | 1.8% | | 90-100 | 0.0 | 0.0% | | 0-20 | 360.3 | 7.4% |
| 10-20 | 272.4 | 5.6% | | 100-110 | 0.0 | 0.0% | | 0-30 | 833.0 | 17.1% |
| 20-30 | 472.7 | 9.7% | | 110-120 | 0.0 | 0.0% | | 0-40 | 1497 | 30.7% |
| 30-40 | 664.2 | 13.6% | | 120-130 | 0.0 | 0.0% | | 0-60 | 3269 | 67.0% |
| 40-50 | 820.8 | 16.8% | | 130-140 | 0.0 | 0.0% | | 0-80 | 4822 | 98.9% |
| 50-60 | 951.4 | 19.5% | | 140-150 | 0.0 | 0.0% | | 10-90 | 4789 | 98.2% |
| 60-70 | 942.4 | 19.3% | | 150-160 | 0.0 | 0.0% | | 20-50 | 1958 | 40.2% |
| 70-80 | 610.6 | 12.5% | | 160-170 | 0.0 | 0.0% | | 40-90 | 3379 | 69.3% |
| 80-90 | 54.2 | 1.1% | | 170-180 | 0.0 | 0.0% | | 60-90 | 1607 | 33.0% |
| 0-90 | 4877 | 100.0% | | 90-180 | 0.0 | 0.0% | | 0-180 | 4877 | 100.0% |



Report of Test

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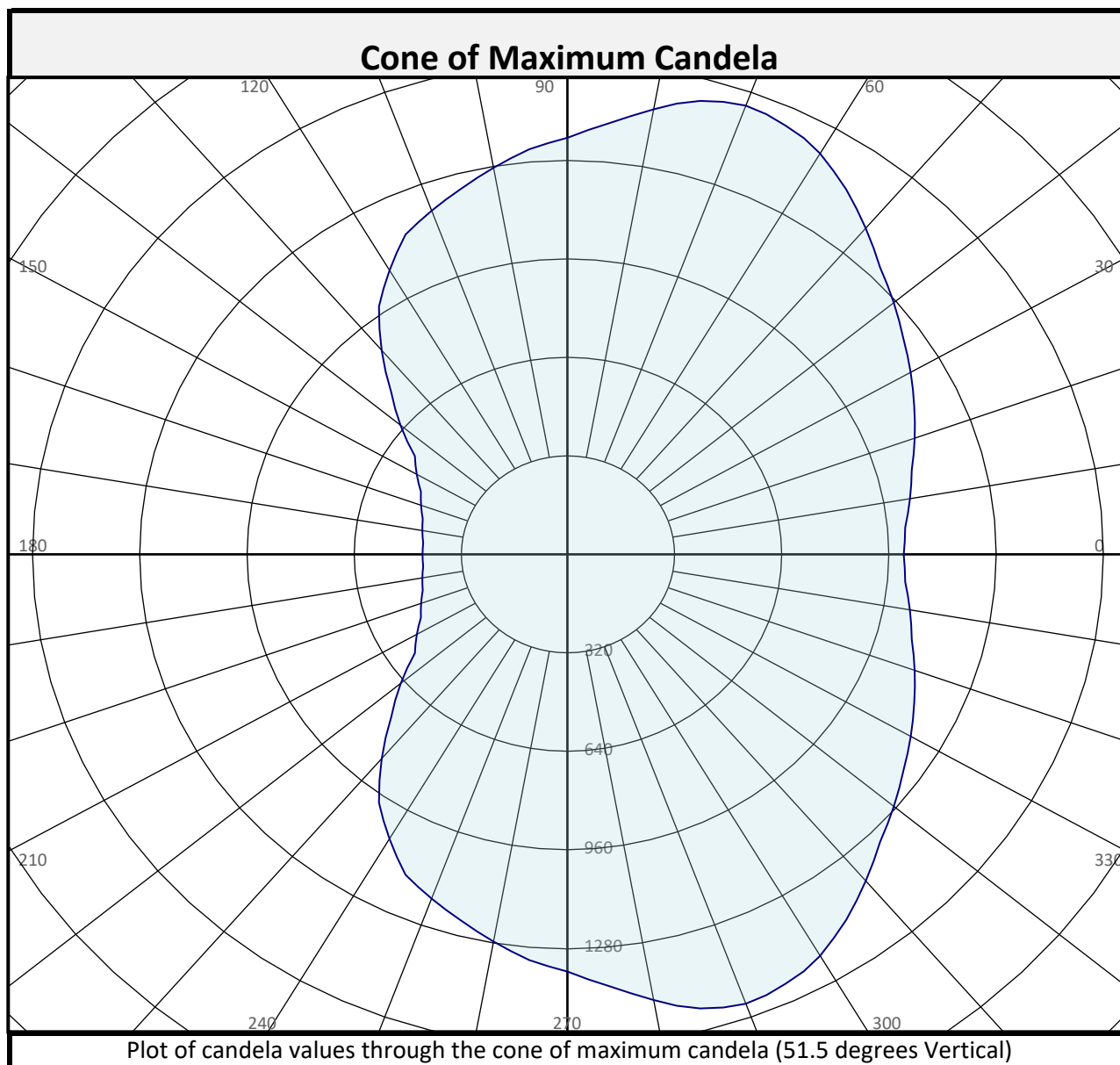


| Street and House Side Flux Summary | | | | | | |
|------------------------------------|----------|------------|--------|------------|--------|------------|
| | Downward | | Upward | | Total | |
| | Lumens | % of Total | Lumens | % of Total | Lumens | % of Total |
| Street Side | 2913.6 | 59.7% | 0.0 | 0.0% | 2913.6 | 59.7% |
| House Side | 1963.0 | 40.3% | 0.0 | 0.0% | 1963.0 | 40.3% |
| Total | 4876.6 | 100.0% | 0.0 | 0.0% | 4876.6 | 100.0% |



Report of Test

LLIA001574-010A



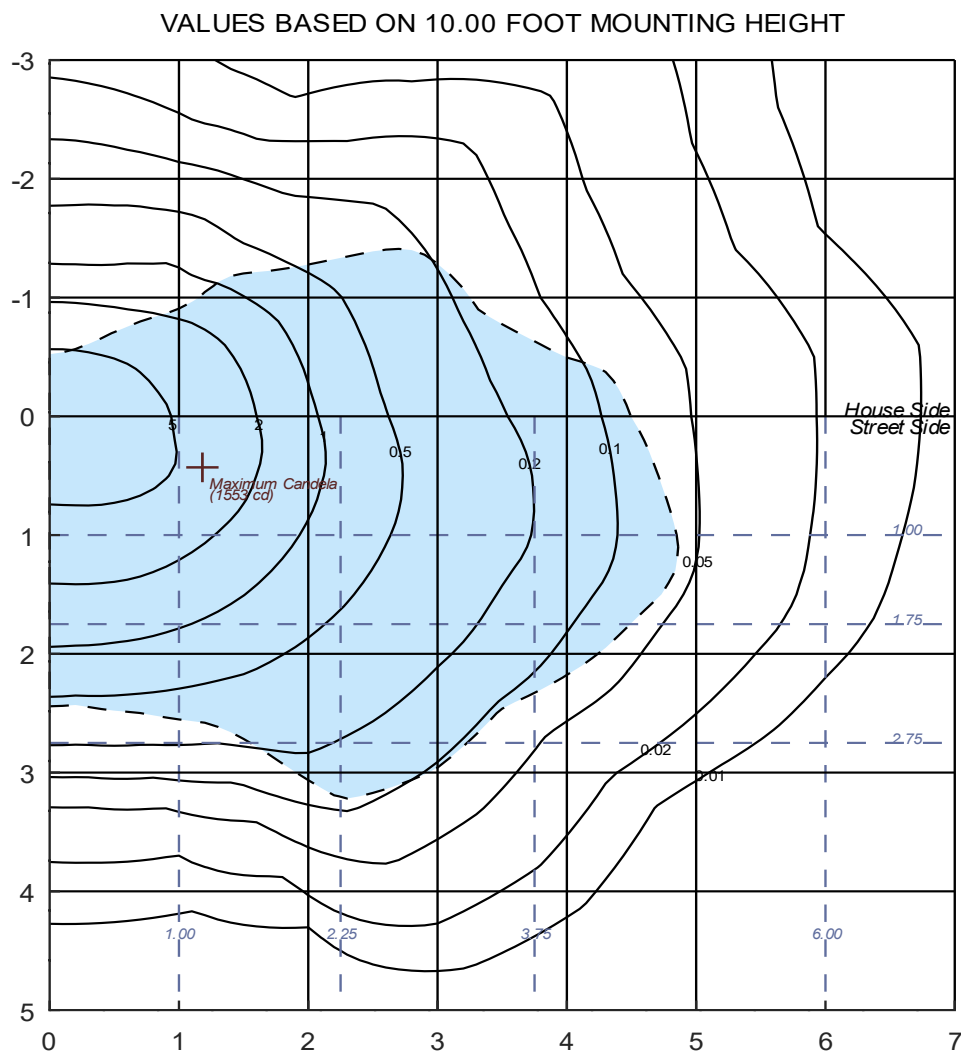
| Street and House Side Flux Summary | | | | | | |
|------------------------------------|----------|------------|--------|------------|--------|------------|
| | Downward | | Upward | | Total | |
| | Lumens | % of Total | Lumens | % of Total | Lumens | % of Total |
| Street Side | 2913.6 | 59.7% | 0.0 | 0.0% | 2913.6 | 59.7% |
| House Side | 1963.0 | 40.3% | 0.0 | 0.0% | 1963.0 | 40.3% |
| Total | 4876.6 | 100.0% | 0.0 | 0.0% | 4876.6 | 100.0% |



Report of Test

LLIA001574-010A

Iso-Illuminance Plot



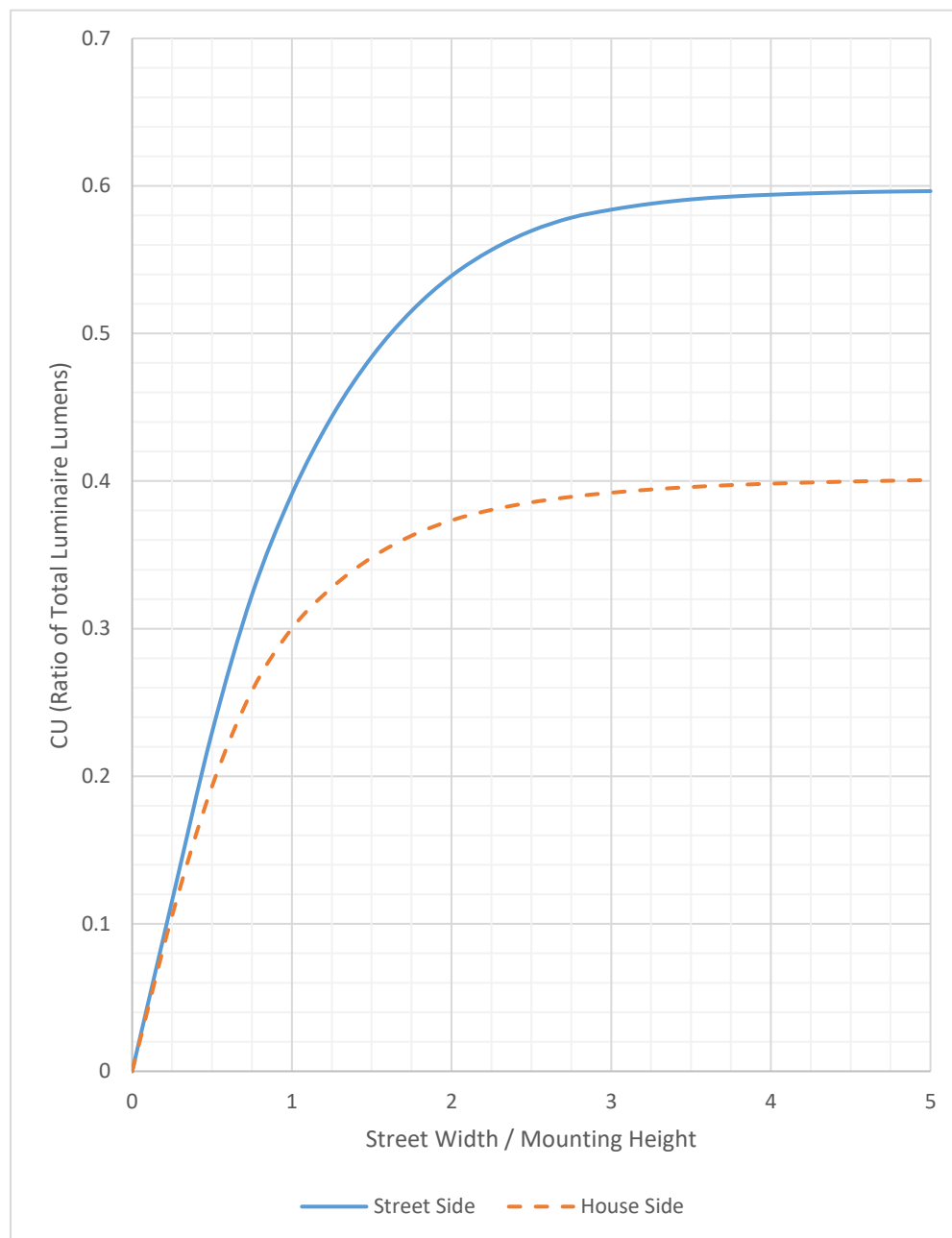
The isofootcandle values shown in the plot above are based on a mounting height of $h = 10.0$ feet. Grid values show multiples of mounting height. The isoilluminance contour lines are expressed in units of footcandles. The values expressed are based on the direct light from a single unit without the contribution of room reflections.



Report of Test

LLIA001574-010A

Coefficients of Utilization Plot

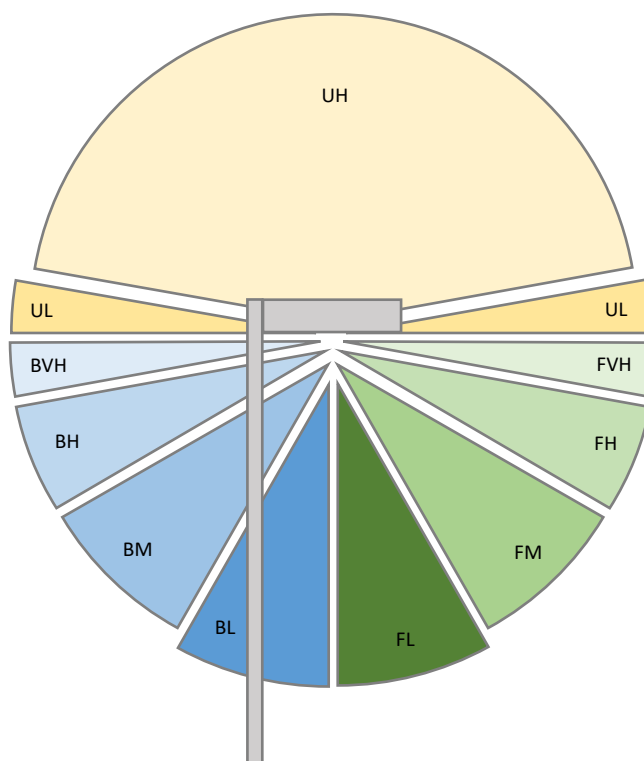




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LLIA001574-010A

LCS Tables and Bug Classification



Back Light

| | |
|--------------------------------|----------|
| BL - Back Low (0°-30°) | 380.4 Lm |
| BM - Back Mid (30°-60°) | 983.7 Lm |
| BH - Back High (60°-80°) | 569.4 Lm |
| BVH - Back Very High (80°-90°) | 29.4 Lm |

Uplight

| | |
|------------------------------|--------|
| UL - Upward Low (90°-100°) | 0.0 Lm |
| UH - Upward High (100°-180°) | 0.0 Lm |

Forward Light


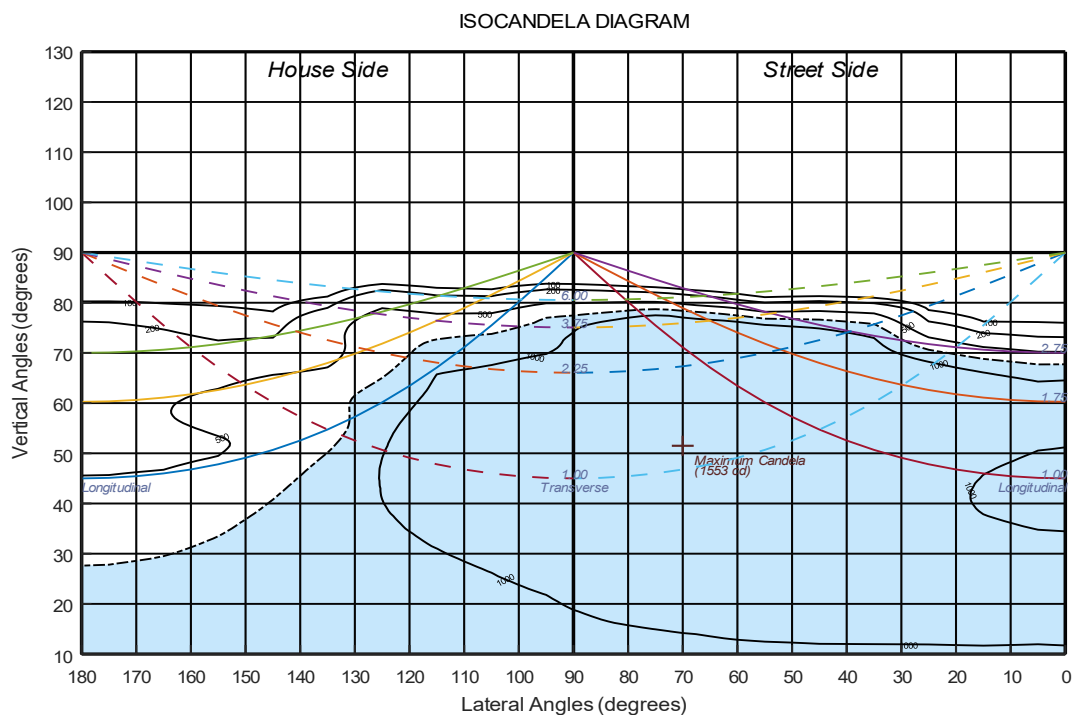
| | |
|-----------------------------------|-----------|
| FL - Forward Low (0°-30°) | 452.6 Lm |
| FM - Forward Mid (30°-60°) | 1452.6 Lm |
| FH - Forward High (60°-80°) | 983.6 Lm |
| FVH - Forward Very High (80°-90°) | 24.8 Lm |

BUG Ratings: B2 - U0 - G2



Report of Test
LLIA001574-010A

Iso-Candela Plot



Half-max Candela Contour Line



Report of Test

LLIA001574-010A

Luminous Intensity (Candela) Table

| | | Lateral (C-Plane) Angles | | | | | | | | | | | | | | |
|--|------|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| | | 0 | 5 | 15 | 25 | 35 | 45 | 55 | 57.5 | 60 | 62.5 | 65 | 67.5 | 70 | 72.5 | 75 |
| Vertical (Gamma) Angles - Data was acquired in 0.5° increments, 2.5° increments shown. | 0 | 893 | 893 | 893 | 893 | 893 | 893 | 893 | 893 | 893 | 893 | 893 | 893 | 893 | 893 | 893 |
| | 2.5 | 929 | 927 | 925 | 925 | 923 | 919 | 914 | 914 | 911 | 911 | 908 | 907 | 906 | 905 | 903 |
| | 5 | 949 | 948 | 945 | 942 | 939 | 937 | 934 | 933 | 931 | 932 | 928 | 926 | 925 | 923 | 920 |
| | 7.5 | 975 | 975 | 975 | 972 | 968 | 961 | 952 | 950 | 949 | 948 | 945 | 944 | 943 | 942 | 938 |
| | 10 | 990 | 990 | 990 | 988 | 987 | 985 | 978 | 974 | 971 | 969 | 966 | 963 | 961 | 959 | 957 |
| | 12.5 | 1005 | 1003 | 1004 | 1005 | 1003 | 1003 | 1000 | 999 | 997 | 994 | 989 | 986 | 983 | 980 | 976 |
| | 15 | 1009 | 1008 | 1010 | 1013 | 1017 | 1020 | 1021 | 1021 | 1020 | 1018 | 1014 | 1010 | 1008 | 1004 | 1001 |
| | 17.5 | 1056 | 1054 | 1046 | 1034 | 1027 | 1035 | 1039 | 1039 | 1040 | 1041 | 1040 | 1037 | 1033 | 1030 | 1026 |
| | 20 | 1098 | 1098 | 1095 | 1086 | 1067 | 1051 | 1057 | 1058 | 1059 | 1060 | 1060 | 1061 | 1059 | 1054 | 1051 |
| | 22.5 | 1125 | 1125 | 1125 | 1126 | 1124 | 1095 | 1076 | 1076 | 1079 | 1081 | 1084 | 1085 | 1085 | 1082 | 1077 |
| | 25 | 1149 | 1150 | 1155 | 1166 | 1170 | 1149 | 1110 | 1104 | 1106 | 1108 | 1109 | 1111 | 1112 | 1111 | 1107 |
| | 27.5 | 1147 | 1149 | 1166 | 1196 | 1218 | 1198 | 1171 | 1159 | 1149 | 1146 | 1145 | 1144 | 1144 | 1141 | 1139 |
| | 30 | 1108 | 1113 | 1145 | 1203 | 1254 | 1255 | 1233 | 1223 | 1214 | 1203 | 1193 | 1185 | 1181 | 1178 | 1172 |
| | 32.5 | 1048 | 1054 | 1102 | 1180 | 1265 | 1309 | 1297 | 1288 | 1279 | 1268 | 1256 | 1239 | 1226 | 1215 | 1206 |
| | 35 | 987 | 995 | 1050 | 1141 | 1252 | 1344 | 1363 | 1354 | 1344 | 1333 | 1320 | 1300 | 1279 | 1260 | 1246 |
| | 37.5 | 939 | 948 | 1005 | 1104 | 1224 | 1354 | 1417 | 1415 | 1407 | 1393 | 1375 | 1353 | 1334 | 1313 | 1291 |
| | 40 | 916 | 925 | 980 | 1078 | 1198 | 1347 | 1452 | 1459 | 1454 | 1445 | 1431 | 1410 | 1389 | 1368 | 1342 |
| | 42.5 | 919 | 926 | 979 | 1072 | 1183 | 1335 | 1466 | 1482 | 1489 | 1488 | 1479 | 1463 | 1443 | 1417 | 1389 |
| | 45 | 938 | 943 | 994 | 1084 | 1188 | 1322 | 1466 | 1493 | 1509 | 1517 | 1518 | 1509 | 1492 | 1465 | 1438 |
| | 47.5 | 963 | 966 | 1017 | 1104 | 1200 | 1319 | 1460 | 1491 | 1515 | 1529 | 1538 | 1538 | 1527 | 1507 | 1481 |
| | 50 | 988 | 994 | 1046 | 1128 | 1214 | 1317 | 1455 | 1483 | 1512 | 1530 | 1542 | 1550 | 1549 | 1535 | 1514 |
| | 52.5 | 1011 | 1023 | 1074 | 1152 | 1230 | 1320 | 1444 | 1475 | 1501 | 1522 | 1534 | 1546 | 1551 | 1544 | 1530 |
| | 55 | 1033 | 1043 | 1098 | 1177 | 1248 | 1324 | 1429 | 1462 | 1489 | 1509 | 1523 | 1531 | 1539 | 1540 | 1530 |
| | 57.5 | 1047 | 1053 | 1108 | 1187 | 1257 | 1327 | 1411 | 1441 | 1467 | 1487 | 1501 | 1509 | 1512 | 1510 | 1509 |
| | 60 | 1056 | 1058 | 1104 | 1186 | 1258 | 1329 | 1391 | 1416 | 1437 | 1454 | 1469 | 1471 | 1471 | 1470 | 1469 |
| | 62.5 | 1043 | 1039 | 1087 | 1166 | 1247 | 1321 | 1371 | 1389 | 1405 | 1417 | 1424 | 1429 | 1429 | 1426 | 1425 |
| | 65 | 981 | 974 | 1043 | 1122 | 1218 | 1299 | 1348 | 1359 | 1368 | 1376 | 1383 | 1388 | 1389 | 1387 | 1379 |
| | 67.5 | 799 | 797 | 906 | 1043 | 1173 | 1263 | 1326 | 1331 | 1336 | 1344 | 1352 | 1358 | 1364 | 1360 | 1348 |
| | 70 | 526 | 528 | 642 | 847 | 1112 | 1216 | 1296 | 1306 | 1316 | 1325 | 1332 | 1339 | 1345 | 1341 | 1331 |
| | 72.5 | 254 | 262 | 344 | 568 | 1024 | 1149 | 1245 | 1262 | 1275 | 1285 | 1289 | 1292 | 1308 | 1326 | 1327 |
| | 75 | 118 | 121 | 135 | 304 | 851 | 988 | 1078 | 1117 | 1149 | 1169 | 1184 | 1202 | 1238 | 1288 | 1300 |
| | 77.5 | 68 | 68 | 76 | 136 | 554 | 641 | 639 | 704 | 769 | 819 | 854 | 891 | 935 | 986 | 999 |
| | 80 | 45 | 47 | 42 | 57 | 188 | 242 | 206 | 237 | 279 | 325 | 371 | 412 | 454 | 505 | 534 |
| | 82.5 | 27 | 29 | 21 | 19 | 34 | 37 | 40 | 50 | 62 | 74 | 86 | 98 | 113 | 132 | 147 |
| | 85 | 4 | 4 | 4 | 5 | 6 | 8 | 8 | 9 | 9 | 11 | 12 | 14 | 17 | 19 | 20 |
| | 87.5 | 1 | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 |
| | 90 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |



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Luminous Intensity (Candela) Table

| | | Lateral (C-Plane) Angles | | | | | | | | | | | | | | |
|--|------|--------------------------|------|------|------|------|------|------|------|------|-----|-----|-----|-----|-----|-----|
| | | 77.5 | 80 | 82.5 | 85 | 90 | 95 | 105 | 115 | 125 | 135 | 145 | 155 | 165 | 175 | 180 |
| Vertical (Gamma) Angles - Data was acquired in 0.5° increments, 2.5° increments shown. | 0 | 893 | 893 | 893 | 893 | 893 | 893 | 893 | 893 | 893 | 893 | 893 | 893 | 893 | 893 | 893 |
| | 2.5 | 902 | 901 | 899 | 898 | 896 | 895 | 893 | 891 | 889 | 888 | 888 | 887 | 886 | 886 | 886 |
| | 5 | 917 | 916 | 911 | 909 | 904 | 901 | 898 | 895 | 891 | 889 | 886 | 883 | 881 | 881 | 880 |
| | 7.5 | 936 | 932 | 928 | 923 | 917 | 911 | 906 | 902 | 897 | 893 | 886 | 880 | 877 | 874 | 874 |
| | 10 | 955 | 951 | 946 | 942 | 931 | 924 | 916 | 910 | 903 | 896 | 888 | 880 | 874 | 871 | 869 |
| | 12.5 | 974 | 971 | 967 | 963 | 949 | 937 | 926 | 918 | 909 | 899 | 889 | 881 | 872 | 867 | 866 |
| | 15 | 997 | 993 | 989 | 984 | 967 | 952 | 937 | 925 | 914 | 900 | 890 | 879 | 867 | 860 | 860 |
| | 17.5 | 1021 | 1017 | 1011 | 1005 | 989 | 968 | 948 | 933 | 919 | 903 | 886 | 873 | 860 | 851 | 851 |
| | 20 | 1047 | 1041 | 1035 | 1029 | 1012 | 985 | 959 | 942 | 925 | 903 | 882 | 867 | 851 | 839 | 839 |
| | 22.5 | 1075 | 1070 | 1063 | 1056 | 1037 | 1006 | 973 | 951 | 929 | 903 | 878 | 856 | 840 | 824 | 822 |
| | 25 | 1105 | 1101 | 1095 | 1086 | 1065 | 1030 | 991 | 963 | 933 | 901 | 870 | 844 | 822 | 804 | 803 |
| | 27.5 | 1136 | 1132 | 1128 | 1120 | 1096 | 1059 | 1010 | 977 | 941 | 899 | 859 | 825 | 796 | 780 | 777 |
| | 30 | 1168 | 1165 | 1159 | 1155 | 1130 | 1090 | 1030 | 993 | 950 | 898 | 847 | 805 | 771 | 753 | 751 |
| | 32.5 | 1201 | 1198 | 1194 | 1189 | 1166 | 1124 | 1055 | 1011 | 964 | 898 | 835 | 785 | 744 | 724 | 721 |
| | 35 | 1237 | 1232 | 1229 | 1223 | 1199 | 1159 | 1079 | 1031 | 977 | 900 | 824 | 761 | 714 | 688 | 685 |
| | 37.5 | 1275 | 1267 | 1262 | 1254 | 1229 | 1191 | 1106 | 1050 | 987 | 900 | 808 | 731 | 674 | 648 | 645 |
| | 40 | 1317 | 1302 | 1293 | 1282 | 1259 | 1221 | 1130 | 1071 | 998 | 896 | 785 | 689 | 632 | 607 | 604 |
| | 42.5 | 1358 | 1335 | 1319 | 1308 | 1284 | 1251 | 1158 | 1090 | 1004 | 885 | 751 | 643 | 585 | 562 | 558 |
| | 45 | 1405 | 1373 | 1351 | 1335 | 1308 | 1277 | 1184 | 1111 | 1008 | 863 | 707 | 593 | 532 | 512 | 510 |
| | 47.5 | 1446 | 1412 | 1385 | 1364 | 1331 | 1300 | 1207 | 1131 | 1007 | 829 | 650 | 538 | 488 | 474 | 474 |
| | 50 | 1485 | 1451 | 1419 | 1392 | 1349 | 1317 | 1225 | 1144 | 995 | 780 | 589 | 494 | 456 | 445 | 446 |
| | 52.5 | 1508 | 1478 | 1447 | 1415 | 1358 | 1325 | 1233 | 1149 | 977 | 724 | 546 | 489 | 450 | 428 | 428 |
| | 55 | 1514 | 1491 | 1462 | 1428 | 1360 | 1322 | 1232 | 1139 | 950 | 676 | 566 | 526 | 463 | 416 | 413 |
| | 57.5 | 1505 | 1486 | 1462 | 1426 | 1350 | 1301 | 1214 | 1112 | 913 | 684 | 647 | 580 | 484 | 429 | 425 |
| | 60 | 1473 | 1457 | 1432 | 1398 | 1315 | 1256 | 1172 | 1074 | 877 | 707 | 698 | 578 | 476 | 429 | 423 |
| | 62.5 | 1429 | 1411 | 1384 | 1349 | 1262 | 1196 | 1116 | 1038 | 838 | 675 | 649 | 513 | 437 | 414 | 413 |
| | 65 | 1384 | 1365 | 1334 | 1298 | 1202 | 1131 | 1058 | 1011 | 777 | 583 | 534 | 419 | 373 | 367 | 368 |
| | 67.5 | 1341 | 1324 | 1285 | 1245 | 1142 | 1065 | 1002 | 957 | 706 | 488 | 402 | 317 | 300 | 313 | 314 |
| | 70 | 1307 | 1282 | 1249 | 1195 | 1077 | 993 | 927 | 869 | 673 | 429 | 292 | 242 | 257 | 275 | 283 |
| | 72.5 | 1311 | 1284 | 1261 | 1191 | 1036 | 939 | 833 | 783 | 704 | 405 | 214 | 200 | 227 | 247 | 262 |
| | 75 | 1280 | 1237 | 1190 | 1123 | 966 | 861 | 706 | 686 | 716 | 374 | 158 | 166 | 195 | 221 | 225 |
| | 77.5 | 976 | 931 | 884 | 844 | 772 | 736 | 537 | 521 | 605 | 276 | 112 | 132 | 154 | 170 | 177 |
| | 80 | 536 | 525 | 514 | 504 | 487 | 486 | 315 | 317 | 414 | 153 | 72 | 86 | 97 | 111 | 116 |
| | 82.5 | 159 | 167 | 180 | 192 | 207 | 213 | 110 | 133 | 204 | 53 | 34 | 45 | 48 | 15 | 5 |
| | 85 | 22 | 24 | 26 | 29 | 34 | 37 | 19 | 22 | 33 | 11 | 9 | 10 | 7 | 2 | 1 |
| | 87.5 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 3 | 3 | 2 | 1 | 1 | 0 | 0 |
| | 90 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |



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Luminous Intensity (Candela) Table

| | | Lateral (C-Plane) Angles | | | | | | | | | | | | | | |
|--|-------|--------------------------|----|----|----|----|----|------|----|------|----|------|----|------|----|---|
| | 0 | 5 | 15 | 25 | 35 | 45 | 55 | 57.5 | 60 | 62.5 | 65 | 67.5 | 70 | 72.5 | 75 | |
| Vertical (Gamma) Angles - Data was acquired in 0.5° increments, 2.5° increments shown. | 90 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 92.5 | 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 |
| | 97.5 | 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 |
| | 102.5 | 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 |
| | 107.5 | 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 |
| | 112.5 | 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 |
| | 117.5 | 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 |
| | 122.5 | 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 |
| | 127.5 | 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 |
| | 132.5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 135 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 137.5 | 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 |
| | 142.5 | 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 |
| | 147.5 | 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 |
| | 152.5 | 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 |
| | 157.5 | 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 |
| | 162.5 | 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 |
| | 167.5 | 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 |
| | 172.5 | 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 |
| | 177.5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 180 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |



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Luminous Intensity (Candela) Table

| | | Lateral (C-Plane) Angles | | | | | | | | | | | | | | |
|--|-------|--------------------------|----|------|----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| | | 77.5 | 80 | 82.5 | 85 | 90 | 95 | 105 | 115 | 125 | 135 | 145 | 155 | 165 | 175 | 180 |
| Vertical (Gamma) Angles - Data was acquired in 0.5° increments, 2.5° increments shown. | 90 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 92.5 | 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 |
| | 97.5 | 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 |
| | 102.5 | 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 |
| | 107.5 | 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 |
| | 112.5 | 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 |
| | 117.5 | 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 |
| | 122.5 | 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 |
| | 127.5 | 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 |
| | 132.5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 135 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 137.5 | 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 |
| | 142.5 | 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 |
| | 147.5 | 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 |
| | 152.5 | 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 |
| | 157.5 | 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 |
| | 162.5 | 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 |
| | 167.5 | 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 |
| | 172.5 | 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 |
| | 177.5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 180 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |



Report of Test

LLIA001574-010A

Additional Pictures of Test Subject





Report of Test

LLIA001574-010A

Test Distance 9.5 m
Ambient Temperature 24.8 °C

Notes

The laboratory has not participated in the selection of samples to be tested. All testing is performed on the understanding that the significance of the report is limited to the extent that the test sample is representative of production units.

Tested in accordance with the applicable sections of publications: IES LM-79-19. Format of reports and angular increments based on IES LM-31-95 and LM-10-96.

The device under test emits no detectable uplight, as defined by ANSI/IES LM-31-20. For the purpose of this report, certain non-zero uplight readings, attributable to instrument artifacts, have been assigned a zero value.

The luminous intensity values, and other derived quantities, contained in this report are based on absolute data.

Prorating the performance of the sample for the use of other component combinations (such as lamp / LED / Ballast / driver), or for use in different environmental conditions than that tested, may produce erroneous results.

This report is free of erasures and corrections.

Photometric intensity values are reported using the IES C-Type spherical coordinate system as defined in IES LM-75-01.

This report may contain data that are not covered by the NVLAP accreditation. Quantities marked with ‡ are not covered.

This report must not be used by the customer to claim product certification, approval or endorsement by NVLAP, NIST, or any agency of the Federal Government.



Report of Test

LLIA001574-010B

Integrating Sphere Report

Catalog Number: NXT-24S-5-X-4AH-5-XX-4-XX-X-XX-X

Pole/arm mounted, grey painted cast aluminum housing and driver compartment cover, one circuit board and clear plastic lens with optic below each LED, clear flat glass enclosure.

24 white LEDs

Osram OT100W/UNV/800C/2DIM/P6 LED driver, Littlefuse LSP10277SBX3902 surge suppressor, 525mA



Performance Summary

| | |
|---------------------|------------------|
| Voltage | 120.0 Vac |
| Current | 0.3528 A |
| Power | 41.85 W |
| Frequency | 59.99 Hz |
| Power Factor | 0.989 |
| Current THD | 2.2 % |
| Total Luminous Flux | 4911.7 lm |
| Efficacy | 117.4 lm/W |
| Chromaticity (x,y) | (0.4322, 0.4076) |
| (u',v') | (0.2460, 0.5221) |
| Duv | 0.0021 |
| CCT | 3110 K |
| CRI (Ra) | 73 |
| R9 | -26 |
| TM-30: Rf | 72 |
| TM-30: Rg | 97 |
| TM-30: Rcs,h1 | -15 |

Prepared For:

LED Roadway Lighting

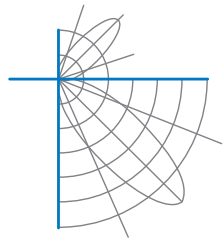
84 Chain Lake Drive

Suite 403

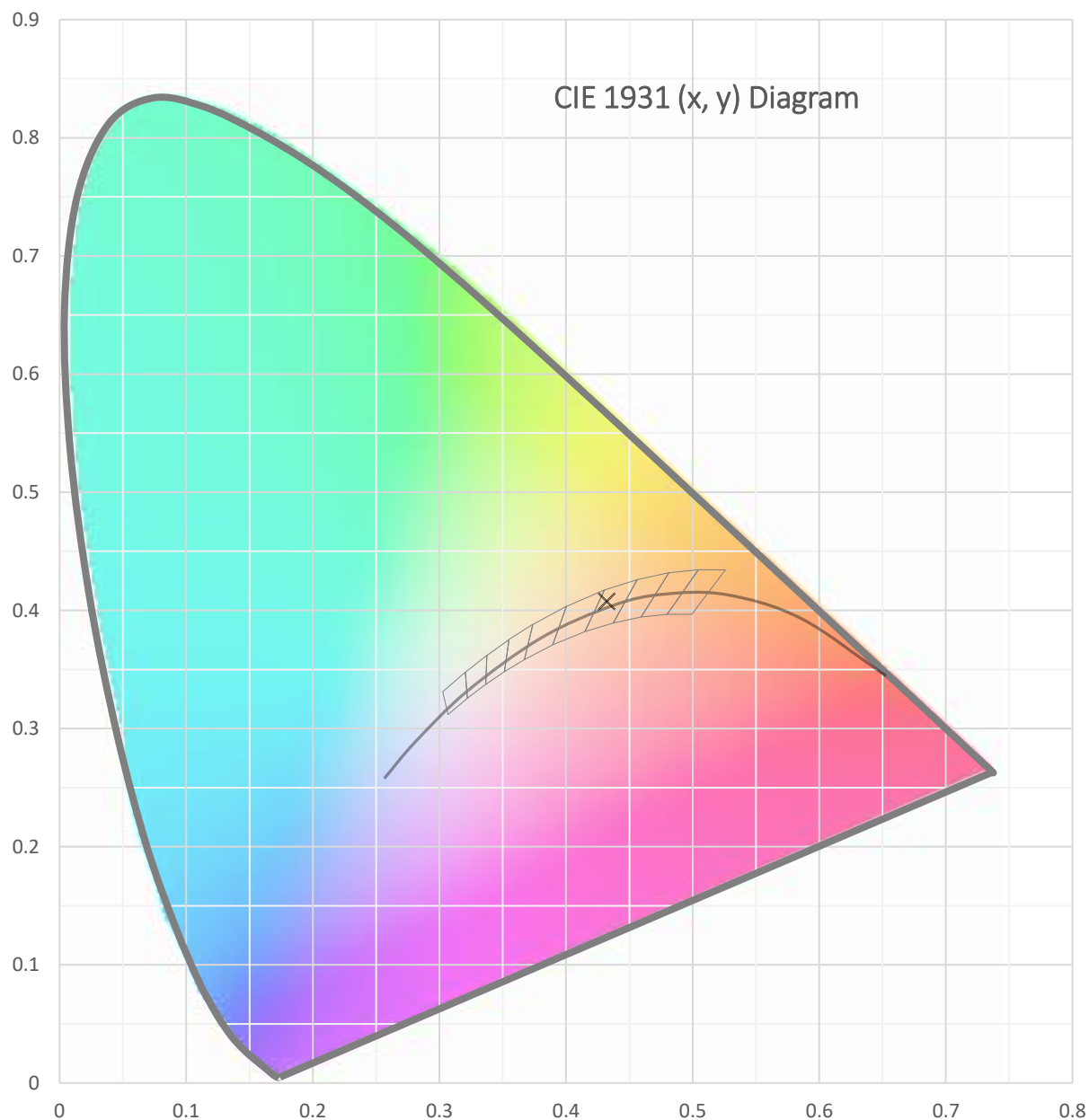
Halifax, Nova Scotia B3S 1A2, Canada

Test date: 11/11/2021

Report date: 11/16/2021

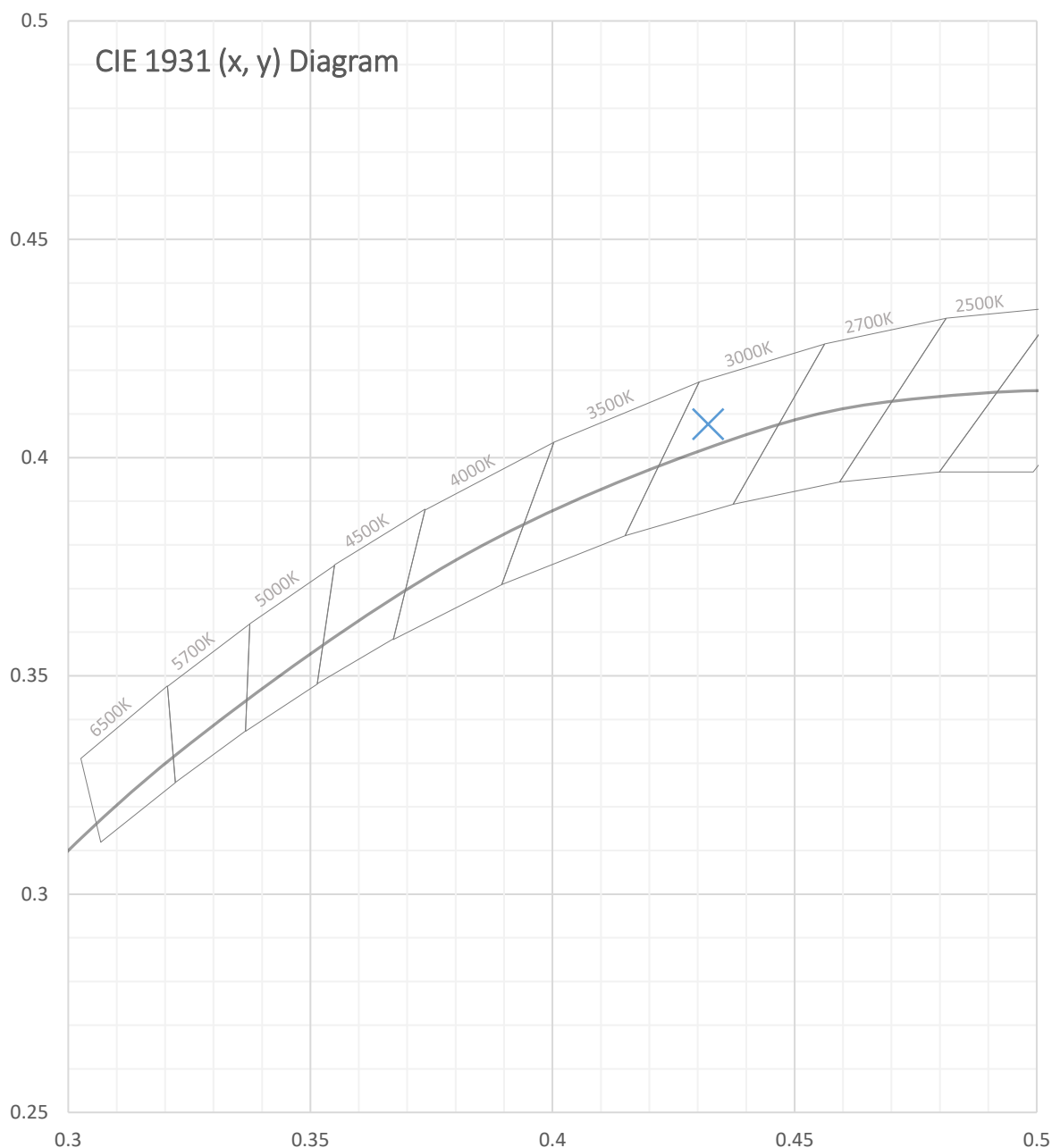


Test Report Number: LLIA001574-010B





Test Report Number: LLIA001574-010B





Test Report Number: LLIA001574-010B

| | |
|--|------------------|
| Total Radiant Flux | 14.07 W |
| Total Luminous Flux | 4911.7 Lm |
| Chromaticity CIE 1931 (x, y) | (0.4322, 0.4076) |
| Chromaticity CIE 1976 (u', v') | (0.2460, 0.5221) |
| Correlated Color Temperature (CCT) | 3110 K |
| Color Rendering Index (Ra) | 73 |
| R1 | 70 |
| R2 | 81 |
| R3 | 91 |
| R4 | 72 |
| R5 | 69 |
| R6 | 74 |
| R7 | 80 |
| R8 | 48 |
| R9 | -26 |
| R10 | 55 |
| R11 | 69 |
| R12 | 49 |
| R13 | 72 |
| R14 | 94 |
| TM-30: Rf | 72 |
| TM-30: Rg | 97 |
| TM-30: Rcs,h1 | -15 |
| Distance from Planckian Locus (Duv) | 0.0021 |
| Scotopic/Photopic Ratio $\frac{V_{\lambda}}{V_{\lambda}^{\prime}}$ | 1.226 |

Electrical Data

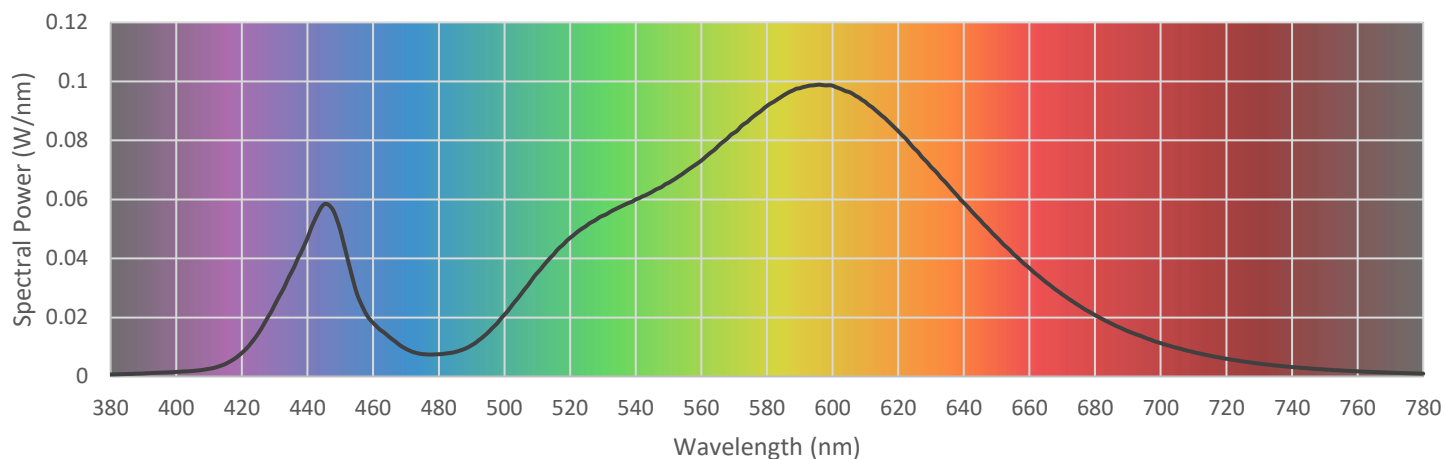
| | |
|--------------|-----------|
| Voltage | 120.0 Vac |
| Current | 0.3528 A |
| Power | 41.85 W |
| Frequency | 59.99 Hz |
| Power Factor | 0.989 |
| Current THD | 2.2 % |



Test Report Number: LLIA001574-010B

Summary Spectral Power Distribution (wavelength - nm, spectral power - W/nm)

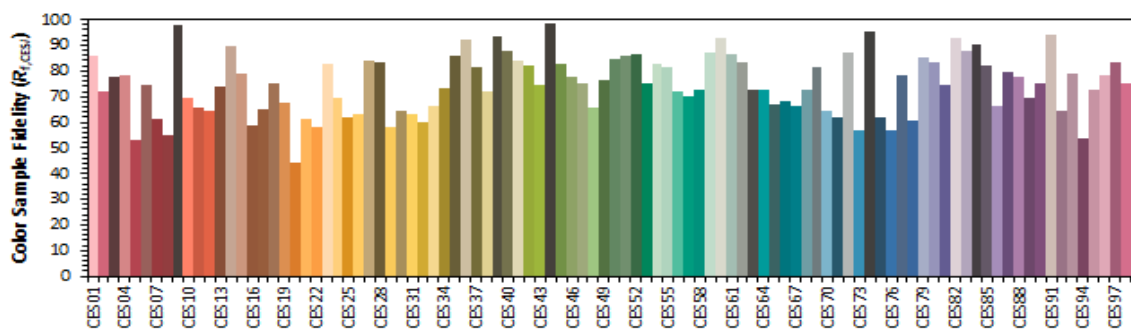
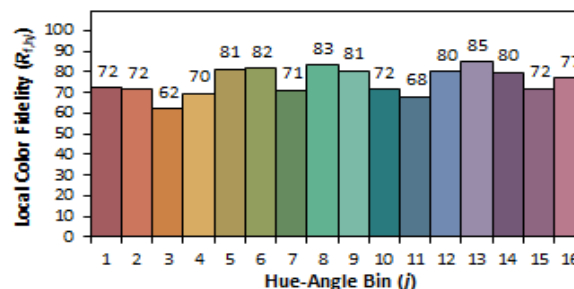
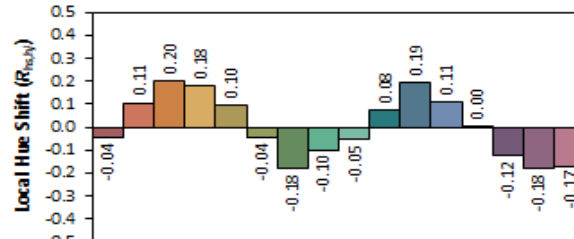
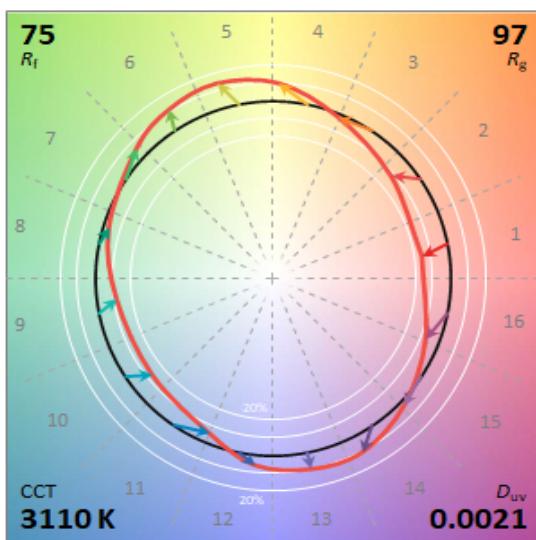
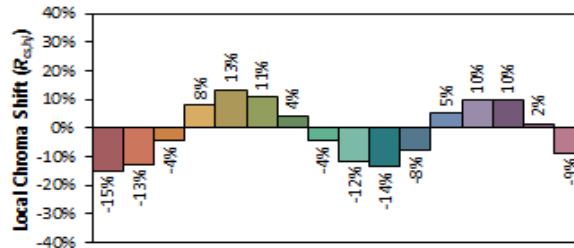
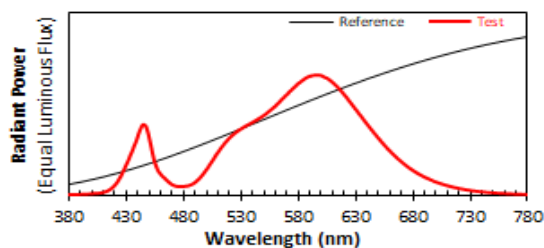
| | | | | | | | |
|-----|----------|-----|----------|-----|----------|-----|----------|
| 380 | 0.000688 | 480 | 0.007543 | 580 | 0.091667 | 680 | 0.020784 |
| 385 | 0.000834 | 485 | 0.008294 | 585 | 0.095222 | 685 | 0.017905 |
| 390 | 0.001021 | 490 | 0.010576 | 590 | 0.097664 | 690 | 0.015353 |
| 395 | 0.001291 | 495 | 0.014882 | 595 | 0.098783 | 695 | 0.013233 |
| 400 | 0.001543 | 500 | 0.020947 | 600 | 0.098566 | 700 | 0.011284 |
| 405 | 0.001874 | 505 | 0.027839 | 605 | 0.096420 | 705 | 0.009666 |
| 410 | 0.002589 | 510 | 0.035095 | 610 | 0.093031 | 710 | 0.008237 |
| 415 | 0.004243 | 515 | 0.041356 | 615 | 0.088392 | 715 | 0.007052 |
| 420 | 0.007992 | 520 | 0.046957 | 620 | 0.083170 | 720 | 0.005990 |
| 425 | 0.014642 | 525 | 0.051069 | 625 | 0.077126 | 725 | 0.005110 |
| 430 | 0.024269 | 530 | 0.054459 | 630 | 0.070991 | 730 | 0.004369 |
| 435 | 0.035128 | 535 | 0.057333 | 635 | 0.065056 | 735 | 0.003716 |
| 440 | 0.046991 | 540 | 0.060009 | 640 | 0.058848 | 740 | 0.003191 |
| 445 | 0.058315 | 545 | 0.062572 | 645 | 0.052979 | 745 | 0.002744 |
| 450 | 0.049540 | 550 | 0.065610 | 650 | 0.047179 | 750 | 0.002357 |
| 455 | 0.028196 | 555 | 0.069248 | 655 | 0.041625 | 755 | 0.002023 |
| 460 | 0.018144 | 560 | 0.073146 | 660 | 0.036727 | 760 | 0.001747 |
| 465 | 0.013286 | 565 | 0.077904 | 665 | 0.032016 | 765 | 0.001504 |
| 470 | 0.009351 | 570 | 0.082558 | 670 | 0.027808 | 770 | 0.001288 |
| 475 | 0.007572 | 575 | 0.087287 | 675 | 0.024111 | 775 | 0.001116 |
| | | | | | | 780 | 0.000964 |





Test Report Number: LLIA001574-010B

IES TM-30 Details



Notes:

x 0.4322
y 0.4076
u' 0.2460
v' 0.5220

CIE 13.3-1995
(CRI)

R_a 73
R_g -27



Test Report Number: LLIA001574-010B

Test Equipment Configuration: LightLab International Allentown 2m Integrating Sphere
Measurements acquired using a Labsphere CDS 2600 spectroradiometer
Testing was performed using 4π geometry

Test Temperature: 24.5 °C

Test Procedure: Tested in accordance with the applicable sections of:
LM-79-19, LM-78-07, LM-58-13, ANSI_ANSLG C78.377-2017, TM-30-18

Significance: The laboratory has not participated in the selection of samples to be tested.
All testing is performed on the understanding that the significance of the report is limited to the extent that the test sample is representative of production units.

Notes: The measurements and other derived quantities contained in this report are based on the absolute data as measured.

Prorating the performance of the sample for the use of other component combinations (such as lamp / LED / Ballast / driver), or for use in different environmental conditions than that tested, may produce erroneous results.

This report is free of erasures and corrections

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Sphere Report Template V2-15



Dimming Test Results

LLIA001574-010C

Catalog Number: NXT-24S-5-X-4AH-5-XX-4-XX-X-XX-X

Pole/arm mounted, grey painted cast aluminum housing and driver compartment cover, one circuit board and clear plastic lens with optic below each LED, clear flat glass enclosure.

24 white LEDs

Osram OT100W/UNV/800C/2DIM/P6 LED driver, Littlefuse LSP10277SBX3902 surge suppressor, 525mA

| Target percentage of maximum output | 100% | 90% | 80% | 70% | 60% | 50% |
|-------------------------------------|--------|--------|--------|--------|--------|--------|
| Lumen Output (Lm) | 4911.7 | 4422.6 | 3928.5 | 3441.1 | 2950.1 | 2445.4 |
| Percent of max output | 100.0% | 90.0% | 80.0% | 70.1% | 60.1% | 49.8% |
| Input Voltage (V) | 120.0 | 120.0 | 120.0 | 120.0 | 120.1 | 120.1 |
| Input Current (A) | 0.3528 | 0.3158 | 0.2794 | 0.2453 | 0.2124 | 0.1797 |
| Input Power (W) | 41.85 | 37.34 | 32.96 | 28.85 | 24.79 | 20.76 |
| Power Factor | 0.989 | 0.987 | 0.983 | 0.979 | 0.972 | 0.962 |
| THD-i | 3.3% | 3.3% | 2.8% | 2.6% | 2.6% | 2.2% |
| Luminaire Efficacy (Lm/W) | 117.4 | 118.4 | 119.2 | 119.3 | 119.0 | 117.8 |

Prepared For:

LED Roadway Lighting

84 Chain Lake Drive

Suite 403

Halifax, Nova Scotia B3S 1A2, Canada

Test Date: 11/12/21

Testing was performed in compliance with IES LM-79-19 in the LightLab International 2m integrating sphere. The laboratory has not participated in the selection of samples to be tested. All testing is performed on the understanding that the significance of the report is limited to the extent that the test sample is representative of production units. Prorating the performance of the sample for the use of other component combinations (such as lamp / LED / Ballast / driver), or for use in different environmental conditions than that tested, may produce erroneous results. This report is free of erasures and corrections.

Dimming Report Template V2-0



Report of Test

LLIA001574-010D

Electrical Test Report

Catalog Number: NXT-24S-5-X-4AH-5-XX-4-XX-X-XX-X

Pole/arm mounted, grey painted cast aluminum housing and driver compartment cover, one circuit board and clear plastic lens with optic below each LED, clear flat glass enclosure.

24 white LEDs

Osram OT100W/UNV/800C/2DIM/P6 LED driver, Littlefuse LSP10277SBX3902 surge suppressor, 525mA



Performance Summary

| | |
|--------------|-----------|
| Voltage | 277.0 Vac |
| Current | 0.1720 A |
| Power | 42.05 W |
| Frequency | 60.00 Hz |
| Power Factor | 0.883 |
| Current THD | 6.6 % |

Ambient Temperature: 24.6 °C

Prepared For:

LED Roadway Lighting

84 Chain Lake Drive

Suite 403

Halifax, Nova Scotia B3S 1A2, Canada

Tested in accordance with the applicable sections of IES LM-79-19. The laboratory has not participated in the selection of samples to be tested. All testing is performed on the understanding that the significance of the report is limited to the extent that the test sample is representative of production units. Prorating the performance of the sample for the use of other component combinations (such as lamp / LED / Ballast / driver), or for use in different environmental conditions than that tested, may produce erroneous results. This report is free of erasures and corrections. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the U.S. Government.

Test date: 11/11/2021

Report date: 11/16/2021

Electrical Report Template V1-3