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: INVUE

Report Number: P367076

Luminaire Tested: **MSA-SA1D-750-U-T2**

Issue Date: 12/2/2019

Report Generated By 670245982

Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269

Scaled Data Report

**Test Information**

| | |
|---|---|
| Test Method: | LM-79-08 |
| Report Number: | P367076 |
| | TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-8) |
| Test Lab: | INNOVATION CENTER |
| Issue Date: | 12/2/2019 |
| Manufacturer: | COOPER LIGHTING SOLUTIONS (FORMERLY EATON) |
| Product Line: | INVUE |
| Catalog Number: | MSA-SA1D-750-U-T2 |
| Description: | MESA POST TOP DECORATIVE LUMINAIRE. (1) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II OPTICS. |
| Light Source: | - |
| Ballast/Driver: | ELECTRONIC DRIVER |

**Summary**

| | |
|---|---|
| Lumens per Lamp: | N/A |
| Luminaire Lumens: | 6840 lumens |
| Efficiency: | N/A |
| Efficacy: | 102.1 lumens/watt |
| Luminous Opening: | Rectangular (W 0.5' x L: 0.5' x H: 0') |
| IES Classification: | Type II - Medium |
| BUG Rating: | B1 - U0 - G2 |

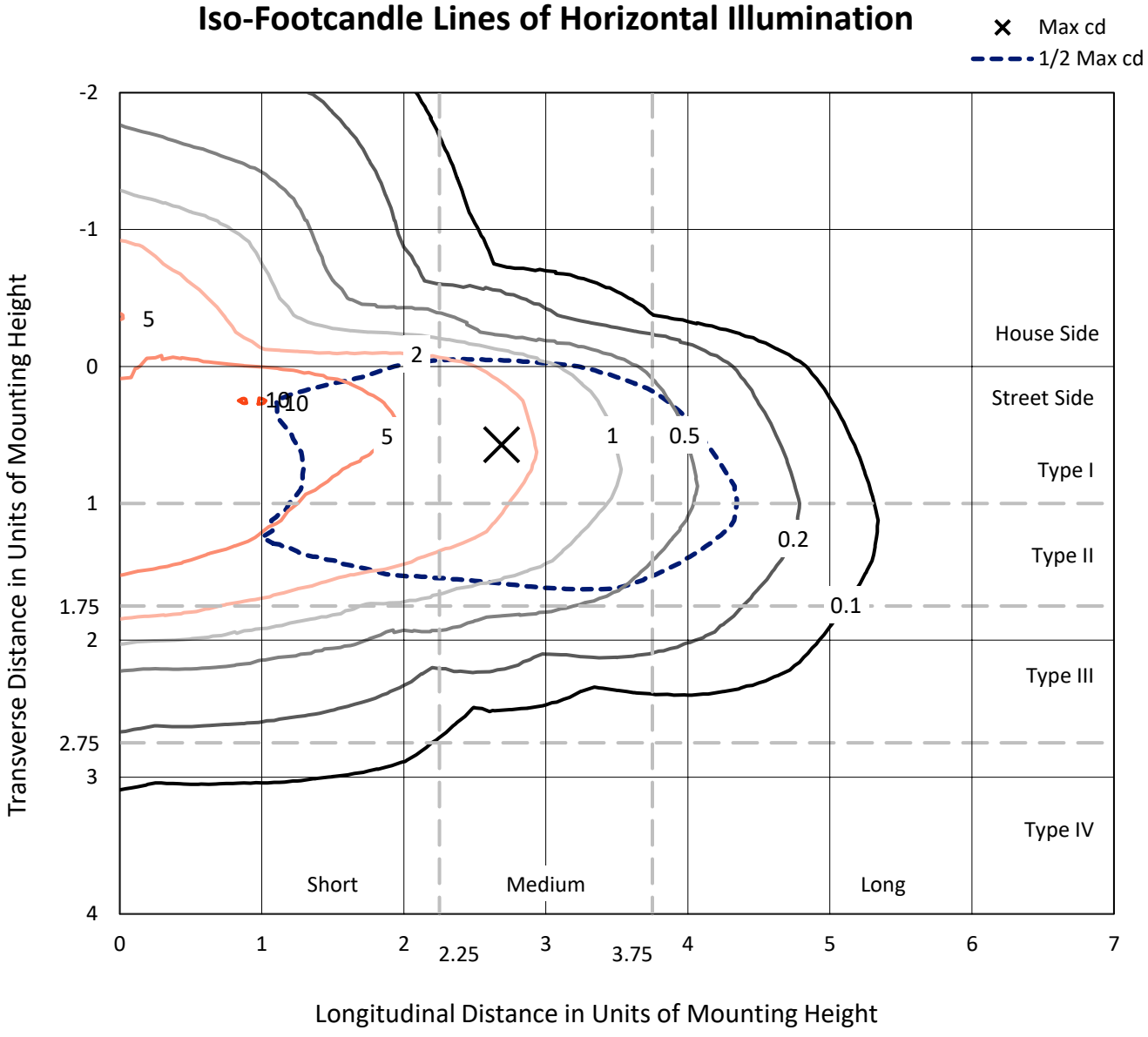
| | |
|---|---|
| Input Watts (W): | 67 |
| Input Voltage (V): | NR |
| Input Current (Ain): | NR |
| Voltage Rise (V): | NR |
| Power Factor: | NR |
| Total Harmonic Distortion (THDi): | NR |
| Frequency (hertz): | 60 |
| Stabilization Time: | NR |
| Operation Time: | NR |
| Ambient Temperature (°C): | NR |
| Test Distance: | 24 FT |

Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269

Scaled Data Report

REPORT NUMBER: P367076
CATALOG NUMBER: MSA-SA1D-750-U-T2

## Iso-Footcandle Lines of Horizontal Illumination



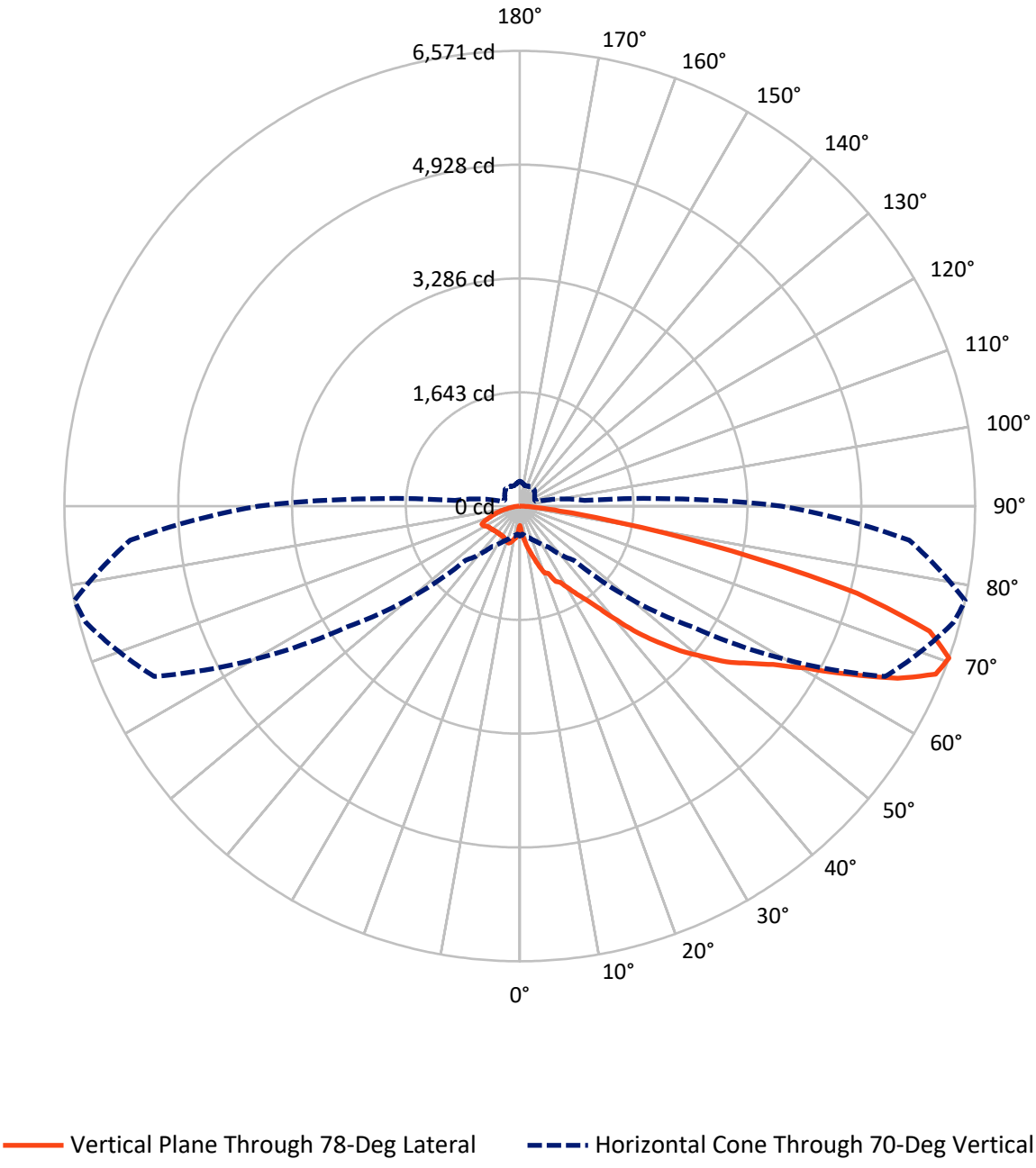

Based on 10 foot mounting height. Maximum calculated value = 10.2 fc
Type II - Medium - N/A

Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269

Scaled Data Report

REPORT NUMBER: P367076
CATALOG NUMBER: MSA-SA1D-750-U-T2

## Luminous Intensity Polar Plot



Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269

Scaled Data Report

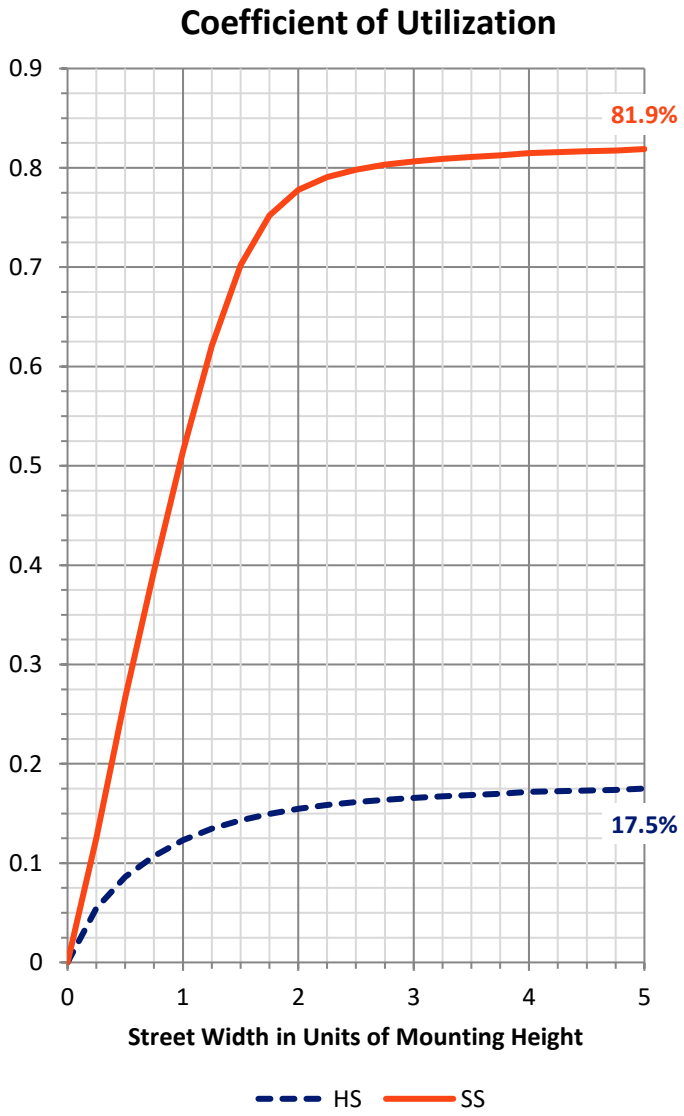
REPORT NUMBER: P367076
CATALOG NUMBER: MSA-SA1D-750-U-T2

**FLUX DISTRIBUTION:**

| | | Downward | Upward | Total |
|---|---|---|---|---|
| **House Side** | Lumens | 1220.8 | 0.0 | 1220.8 |
| | % Fixture | 17.8 | 0.0 | 17.8 |
| **Street Side** | Lumens | 5619.2 | 0.0 | 5619.2 |
| | % Fixture | 82.2 | 0.0 | 82.2 |
| **Total** | Lumens | 6840.0 | 0.0 | 6840.0 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

**ZONAL LUMENS:**

| Zone | Lumens | % Fixture |
|---|---|---|
| 0°-10° | 43.1 | 0.6 |
| 10°-20° | 189.9 | 2.8 |
| 20°-30° | 365.5 | 5.3 |
| 30°-40° | 615.6 | 9.0 |
| 40°-50° | 1065.2 | 15.6 |
| 50°-60° | 1608.3 | 23.5 |
| 60°-70° | 1781.4 | 26.0 |
| 70°-80° | 1027.0 | 15.0 |
| 80°-90° | 144.0 | 2.1 |
| 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° | 6840.0 | 100.0 |
| 0°-180° | 6840.0 | 100.0 |



Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269

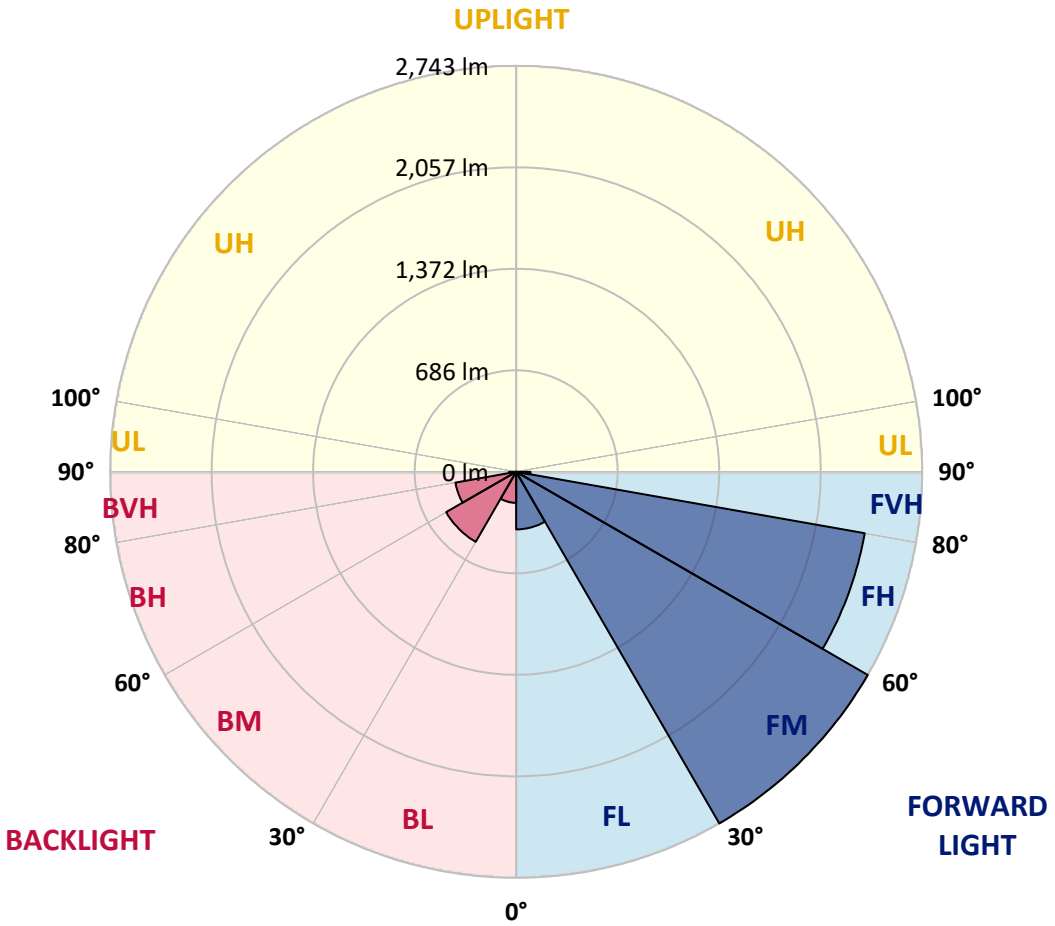
Scaled Data Report

REPORT NUMBER: P367076
CATALOG NUMBER: MSA-SA1D-750-U-T2

## LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | | Lumens | % Fixture | Zone Rating/Lumen Limit B | U | G |
|---|---|---|---|---|---|---|
| FL | (0°-30°) | 388.8 | 5.7 | | | |
| FM | (30°-60°) | 2743.0 | 40.1 | | | |
| FH | (60°-80°) | 2391.2 | 35.0 | | | G2/5000 |
| FVH | (80°-90°) | 96.1 | 1.4 | | | G1/100 |
| BL | (0°-30°) | 209.6 | 3.1 | B1/500 | | |
| BM | (30°-60°) | 546.0 | 8.0 | B1/1000 | | |
| BH | (60°-80°) | 417.2 | 6.1 | B1/500 | | G1/500 |
| BVH | (80°-90°) | 48.0 | 0.7 | | | G1/100 |
| UL | (90°-100°) | 0.0 | 0.0 | | U0/0 | |
| UH | (100°-180°) | 0.0 | 0.0 | | U0/0 | |

**BUG Rating: B1-U0-G2**
Type II Medium



Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269

Scaled Data Report

REPORT NUMBER: P367076
CATALOG NUMBER: MSA-SA1D-750-U-T2

**CANDELA DISTRIBUTION (FULL):**

| | 0° | 5° | 15° | 25° | 35° | 45° | 55° | 65° | 75° | 78° | 85° |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0° | 278.9 | 278.9 | 278.9 | 278.9 | 278.9 | 278.9 | 278.9 | 278.9 | 278.9 | *278.9* | 278.9 |
| 2.5° | 359.0 | 346.2 | 326.8 | 334.8 | 344.5 | 345.6 | 342.5 | 324.8 | 318.8 | *332.2* | 336.2 |
| 5° | 503.0 | 481.3 | 468.2 | 463.9 | 449.4 | 419.2 | 440.8 | 429.7 | 432.0 | *425.4* | 438.3 |
| 7.5° | 624.2 | 609.6 | 590.2 | 584.8 | 551.5 | 527.8 | 542.6 | 537.8 | 514.4 | *505.3* | 519.8 |
| 10° | 685.8 | 669.8 | 670.7 | 659.0 | 650.1 | 652.4 | 645.0 | 623.6 | 606.2 | *594.0* | 558.9 |
| 12.5° | 722.8 | 726.8 | 748.2 | 742.2 | 775.6 | 803.0 | 782.1 | 750.5 | 695.5 | *684.3* | 649.6 |
| 15° | 810.9 | 825.8 | 805.8 | 814.9 | 829.2 | 881.7 | 873.1 | 866.3 | 808.1 | *786.4* | 722.3 |
| 17.5° | 901.6 | 904.5 | 874.2 | 869.4 | 903.6 | 930.1 | 963.5 | 925.0 | 932.1 | *917.0* | 813.2 |
| 20° | 921.0 | 940.7 | 897.3 | 867.4 | 937.8 | 990.3 | 1031.6 | 990.9 | 1028.5 | *1032.5* | 888.2 |
| 22.5° | 992.0 | 968.3 | 911.3 | 881.9 | 943.5 | 1008.0 | 1075.3 | 1098.1 | 1086.1 | *1052.5* | 960.6 |
| 25° | 1041.3 | 1028.8 | 970.6 | 938.1 | 961.5 | 1020.8 | 1138.9 | 1198.5 | 1209.0 | *1204.4* | 1029.7 |
| 27.5° | 1132.9 | 1139.1 | 1019.4 | 1028.5 | 996.0 | 1001.4 | 1177.1 | 1331.6 | 1265.8 | *1247.5* | 1115.2 |
| 30° | 1277.4 | 1249.5 | 1115.2 | 1122.6 | 1068.7 | 1059.6 | 1257.8 | 1446.5 | 1387.5 | *1365.6* | 1185.6 |
| 32.5° | 1428.3 | 1430.8 | 1267.7 | 1204.4 | 1175.6 | 1166.5 | 1241.8 | 1506.7 | 1541.5 | *1513.0* | 1292.0 |
| 35° | 1641.0 | 1626.2 | 1433.1 | 1349.9 | 1245.8 | 1229.8 | 1355.6 | 1681.2 | 1745.1 | *1665.2* | 1418.3 |
| 37.5° | 1964.9 | 1920.2 | 1695.5 | 1503.0 | 1426.0 | 1407.8 | 1518.1 | 1837.7 | 1981.5 | *1882.2* | 1624.7 |
| 40° | 2225.0 | 2134.0 | 1929.8 | 1695.5 | 1565.2 | 1587.7 | 1633.6 | 2027.7 | 2226.7 | *2170.8* | 1815.8 |
| 42.5° | 2432.3 | 2351.6 | 2095.8 | 1931.0 | 1753.9 | 1726.0 | 1776.2 | 2262.9 | 2560.3 | *2505.6* | 2054.2 |
| 45° | 2631.0 | 2466.8 | 2282.3 | 2134.0 | 1963.8 | 1997.7 | 1990.3 | 2503.0 | 2969.5 | *2801.0* | 2264.9 |
| 47.5° | 2827.2 | 2672.9 | 2479.9 | 2280.6 | 2109.2 | 2320.5 | 2241.5 | 2681.5 | 3245.5 | *3120.6* | 2486.7 |
| 50° | 3079.3 | 2909.6 | 2689.8 | 2489.3 | 2386.6 | 2541.2 | 2408.6 | 2832.6 | 3554.6 | *3408.0* | 2696.0 |
| 52.5° | 3246.6 | 3081.5 | 2888.8 | 2745.6 | 2736.2 | 2676.6 | 2642.7 | 3023.9 | 3825.5 | *3736.5* | 2917.9 |
| 55° | 3227.0 | 3067.9 | 2980.6 | 2996.3 | 3112.6 | 2911.6 | 2883.9 | 3307.1 | 4108.1 | *4005.1* | 3157.4 |
| 57.5° | 2980.3 | 2806.7 | 2825.2 | 2918.2 | 3230.7 | 3324.2 | 3277.1 | 3609.6 | 4360.1 | *4313.4* | 3453.7 |
| 60° | 2321.6 | 2232.4 | 2383.2 | 2553.2 | 3072.7 | 3445.1 | 3775.9 | 3978.6 | 4670.4 | *4745.1* | 3919.0 |
| 62.5° | 1508.1 | 1388.9 | 1627.3 | 1915.9 | 2601.4 | 3365.3 | 4283.7 | 4678.3 | 5178.5 | *5348.1* | 4626.2 |
| 65° | 781.3 | 762.2 | 929.0 | 1194.2 | 1810.9 | 2869.4 | 4462.8 | 5412.3 | 5796.1 | *5993.7* | 5301.7 |
| 67.5° | 568.0 | 532.6 | 609.9 | 765.9 | 1105.5 | 1956.7 | 4123.5 | 5973.7 | 6292.0 | *6473.0* | 5694.3 |
| 70° | *432.6* | *406.3* | *465.4* | *562.0* | *722.0* | *1105.2* | *3043.9* | *5820.6* | *6483.3* | *6571.1* | *5642.1* |
| 72.5° | 323.9 | 301.4 | 353.0 | 443.1 | 556.3 | 622.2 | 1799.3 | 4785.8 | 6156.8 | *6186.7* | 5063.9 |
| 75° | 258.6 | 241.2 | 263.5 | 349.9 | 453.4 | 423.4 | 955.8 | 3467.3 | 5002.3 | *5027.9* | 3868.0 |
| 77.5° | 212.1 | 197.3 | 206.4 | 262.3 | 352.7 | 318.5 | 474.2 | 2205.6 | 3175.9 | *3136.6* | 2176.2 |
| 80° | 173.1 | 160.3 | 164.5 | 189.6 | 268.6 | 237.8 | 266.3 | 1150.6 | 1515.0 | *1453.9* | 905.0 |
| 82.5° | 133.2 | 122.3 | 130.9 | 139.4 | 194.5 | 170.8 | 155.4 | 523.5 | 620.5 | *578.0* | 331.9 |
| 85° | 89.2 | 79.3 | 113.8 | 104.6 | 127.2 | 104.9 | 85.0 | 208.4 | 231.3 | *215.6* | 116.6 |
| 87.5° | 24.5 | 23.1 | 38.2 | 52.2 | 52.2 | 39.6 | 31.1 | 50.5 | 64.4 | *56.5* | 27.4 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | *0.0* | 0.0 |

Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269

Scaled Data Report

REPORT NUMBER: P367076
CATALOG NUMBER: MSA-SA1D-750-U-T2

**CANDELA DISTRIBUTION (continued):**

| | 90° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0° | 278.9 | 278.9 | 278.9 | 278.9 | 278.9 | 278.9 | 278.9 | 278.9 | 278.9 | 278.9 | 278.9 |
| 2.5° | 337.9 | 331.6 | 315.1 | 313.7 | 317.6 | 318.2 | 315.7 | 309.7 | 306.5 | 323.6 | 321.1 |
| 5° | 435.1 | 412.9 | 399.5 | 387.2 | 370.1 | 357.9 | 361.0 | 369.5 | 372.4 | 385.2 | 386.7 |
| 7.5° | 510.7 | 481.3 | 452.0 | 412.6 | 386.7 | 370.1 | 382.7 | 391.8 | 398.9 | 417.2 | 424.6 |
| 10° | 543.5 | 511.5 | 469.9 | 428.6 | 421.4 | 424.3 | 417.2 | 419.4 | 430.6 | 431.4 | 435.1 |
| 12.5° | 604.5 | 568.3 | 493.3 | 455.9 | 453.9 | 459.9 | 457.4 | 467.9 | 475.6 | 496.4 | 487.6 |
| 15° | 663.0 | 616.8 | 511.0 | 472.8 | 464.5 | 476.5 | 490.4 | 508.1 | 524.7 | 544.3 | 534.4 |
| 17.5° | 734.0 | 664.4 | 511.8 | 465.1 | 466.5 | 492.2 | 506.7 | 516.4 | 565.7 | 592.8 | 579.1 |
| 20° | 778.7 | 669.2 | 492.7 | 446.0 | 466.5 | 489.6 | 509.8 | 520.4 | 575.7 | 616.5 | 625.9 |
| 22.5° | 819.2 | 670.9 | 477.9 | 435.7 | 448.8 | 479.3 | 509.8 | 533.2 | 568.6 | 607.6 | 609.1 |
| 25° | 841.5 | 669.5 | 458.8 | 436.6 | 448.5 | 463.6 | 490.7 | 512.1 | 538.4 | 592.8 | 594.2 |
| 27.5° | 898.5 | 651.0 | 440.0 | 440.0 | 446.2 | 446.8 | 481.3 | 493.9 | 497.6 | 547.2 | 556.0 |
| 30° | 915.0 | 655.0 | 437.7 | 439.4 | 442.5 | 436.8 | 452.0 | 460.2 | 465.6 | 508.4 | 509.8 |
| 32.5° | 941.5 | 623.0 | 444.5 | 434.3 | 430.3 | 429.4 | 433.1 | 440.5 | 442.8 | 469.1 | 473.9 |
| 35° | 973.8 | 610.2 | 446.8 | 432.8 | 424.9 | 420.6 | 431.7 | 422.6 | 429.7 | 460.5 | 463.9 |
| 37.5° | 1078.7 | 592.5 | 458.5 | 432.8 | 422.6 | 417.7 | 412.3 | 416.6 | 442.0 | 471.6 | 489.9 |
| 40° | 1145.7 | 597.9 | 455.7 | 437.1 | 414.9 | 410.3 | 401.2 | 416.9 | 456.2 | 508.7 | 522.4 |
| 42.5° | 1263.2 | 601.1 | 459.1 | 435.1 | 417.4 | 399.8 | 405.8 | 422.9 | 464.2 | 494.2 | 515.3 |
| 45° | 1384.7 | 610.8 | 456.8 | 429.1 | 411.7 | 420.0 | 411.7 | 427.1 | 446.8 | 447.7 | 463.6 |
| 47.5° | 1503.8 | 649.8 | 452.0 | 416.9 | 410.3 | 432.0 | 410.9 | 413.5 | 414.9 | 420.0 | 438.8 |
| 50° | 1643.8 | 691.5 | 445.1 | 399.8 | 412.3 | 432.6 | 414.0 | 401.5 | 400.1 | 416.9 | 438.0 |
| 52.5° | 1803.0 | 738.5 | 436.3 | 383.2 | 400.6 | 427.1 | 424.9 | 402.3 | 390.1 | 406.3 | 427.4 |
| 55° | 1990.3 | 792.1 | 426.0 | 366.7 | 387.8 | 427.7 | 430.9 | 396.3 | 390.4 | 408.0 | 430.6 |
| 57.5° | 2239.2 | 869.7 | 406.0 | 342.7 | 372.1 | 418.9 | 415.5 | 389.5 | 383.8 | 402.6 | 426.0 |
| 60° | 2664.1 | 1018.8 | 377.5 | 319.1 | 355.3 | 397.2 | 402.9 | 377.2 | 371.5 | 392.4 | 416.9 |
| 62.5° | 3233.0 | 1198.2 | 343.0 | 296.0 | 334.8 | 373.8 | 387.2 | 359.6 | 359.0 | 385.5 | 411.2 |
| 65° | 3762.5 | 1300.0 | 307.4 | 274.9 | 313.7 | 352.2 | 369.5 | 343.0 | 344.2 | 377.5 | 403.2 |
| 67.5° | 3982.6 | 1180.2 | 275.4 | 256.1 | 289.4 | 327.3 | 355.0 | 330.2 | 326.5 | 366.7 | 390.4 |
| 70° | *3775.9* | *937.6* | *247.8* | *236.1* | *262.0* | *300.5* | *334.8* | *313.1* | *304.5* | *341.0* | *359.6* |
| 72.5° | 3341.0 | 781.6 | 221.8 | 212.7 | 238.1 | 272.3 | 307.4 | 290.0 | 278.9 | 306.8 | 323.4 |
| 75° | 2611.6 | 641.3 | 192.2 | 189.6 | 210.7 | 246.6 | 278.9 | 266.9 | 252.6 | 270.3 | 286.9 |
| 77.5° | 1487.0 | 405.8 | 161.4 | 163.1 | 178.2 | 216.1 | 244.7 | 235.2 | 220.7 | 228.1 | 247.2 |
| 80° | 595.1 | 204.7 | 129.7 | 130.9 | 143.7 | 177.6 | 202.7 | 199.3 | 184.2 | 190.2 | 203.3 |
| 82.5° | 222.4 | 112.3 | 95.8 | 96.4 | 109.2 | 140.6 | 173.1 | 171.4 | 157.1 | 152.8 | 160.3 |
| 85° | 88.4 | 55.6 | 58.7 | 61.3 | 73.6 | 101.2 | 138.9 | 123.2 | 106.4 | 93.2 | 97.8 |
| 87.5° | 21.1 | 17.7 | 20.5 | 21.7 | 24.0 | 31.7 | 50.8 | 40.8 | 41.9 | 33.6 | 25.1 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)