

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: McGRAW-EDISON

Report Number: P821287

Luminaire Tested: **TT-D2-740-24VDC-RW-UPL**

Issue Date: 10/29/2020

Test Information

Test Method: LM-79-08
Report Number: P821287
REPORT IS FROM IESNA LM-79-08 TEST DATA - UPLIGHT (G2-2002-677-1) AND
Test Lab: INNOVATION CENTER
Issue Date: 10/29/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: MCGRAW-EDISON
Catalog Number: TT-D2-740-24VDC-RW-UPL
Description: TOPTIER LED PARKING GARAGE LUMINAIRE WITH UPLIGHT
4000K, 70 CRI LEDS AND RECTANGULAR DISTRIBUTION
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

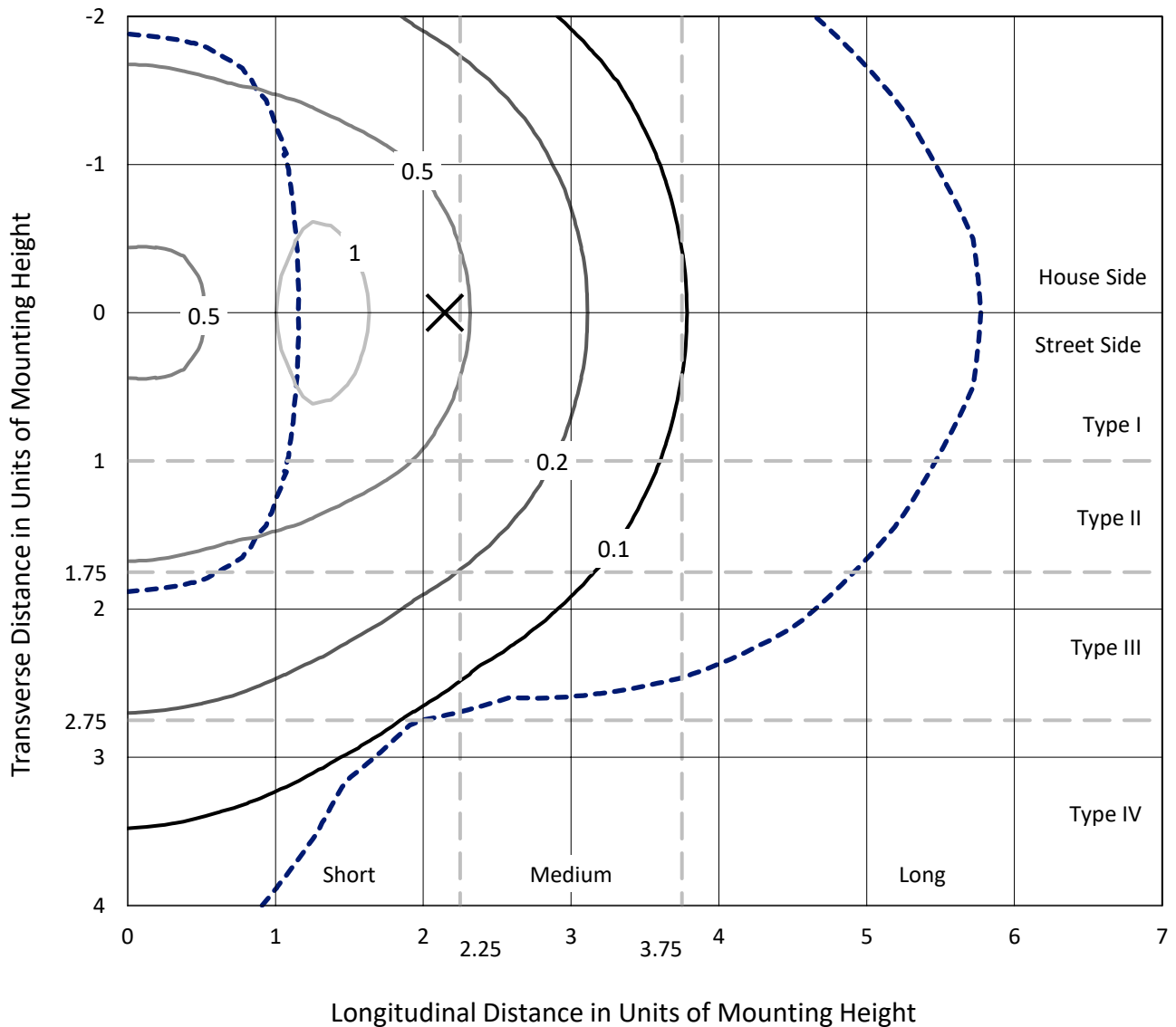
Lumens per Lamp: N/A
Luminaire Lumens: 5104.7 lumens
Efficiency: N/A
Efficacy: 134.3 lumens/watt
Luminous Opening: Vertical Cylinder (Dia: 1.12' x H: 0.1')
IES Classification: Type IV - Short
BUG Rating: B3 - U4 - G3

Input Watts (W): 38
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT

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Iso-Footcandle Lines of Horizontal Illumination

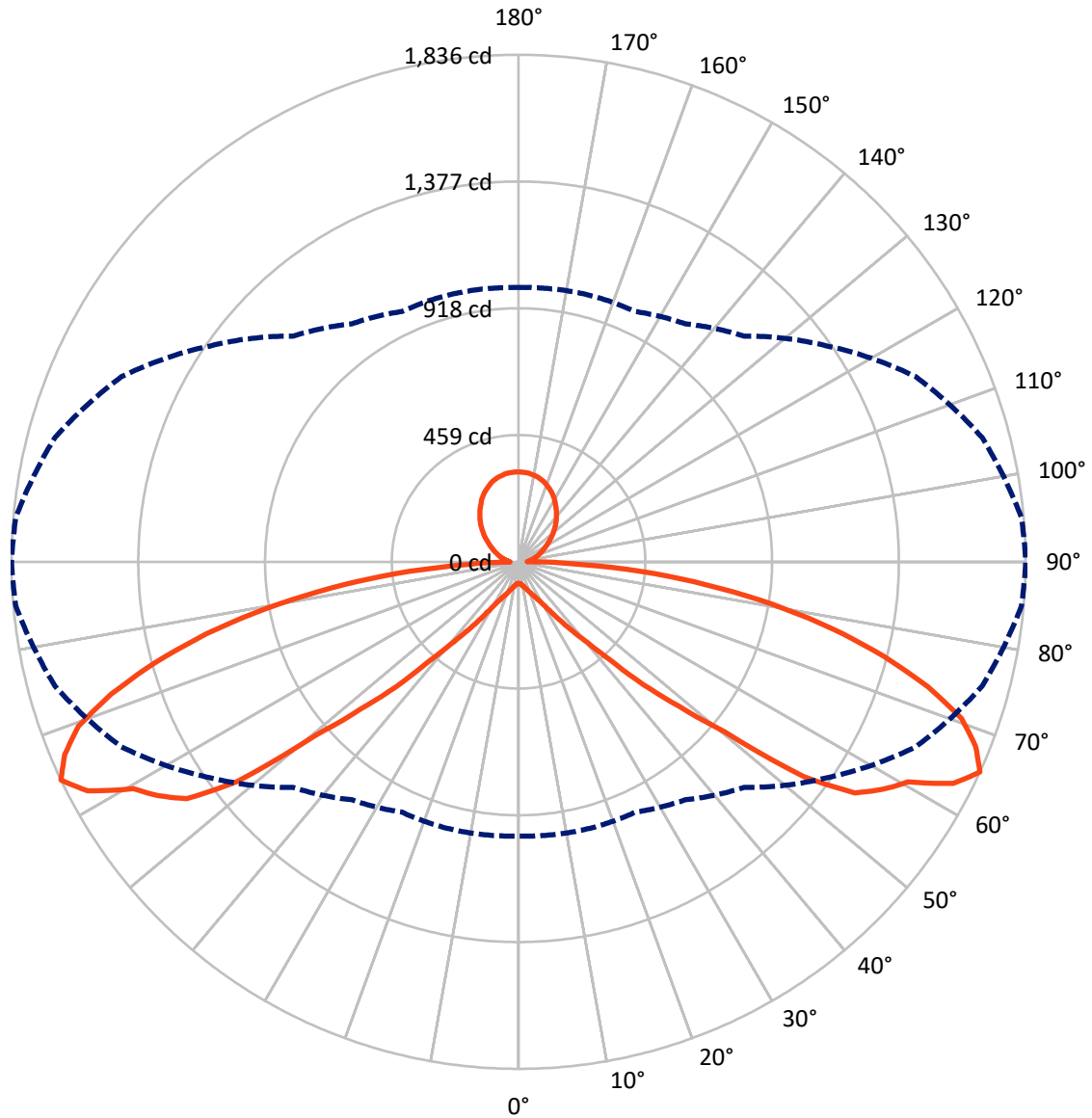
× Max cd
 - - - 1/2 Max cd



Based on 15 foot mounting height. Maximum calculated value = 1.3 fc
 Type IV - Short - N/A

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Luminous Intensity Polar Plot



— Vertical Plane Through 90-Deg Lateral - - - Horizontal Cone Through 65-Deg Vertical

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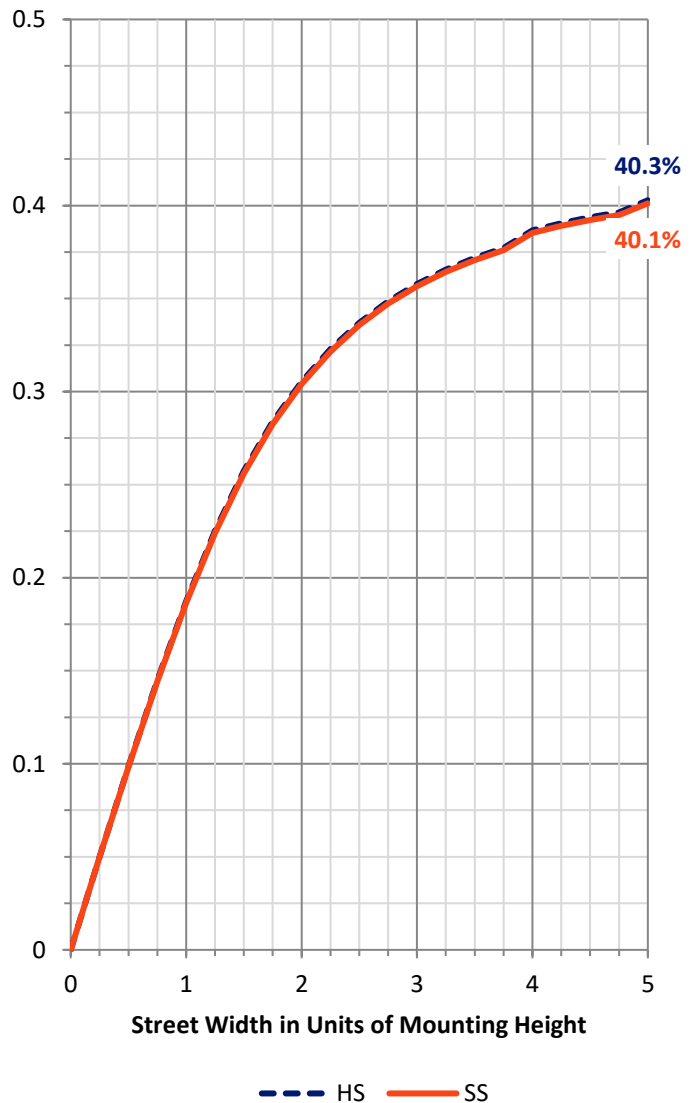
FLUX DISTRIBUTION:

| | | Downward | Upward | Total |
|--------------------|-----------|----------|--------|--------|
| House Side | Lumens | 2109.6 | 442.7 | 2552.3 |
| | % Fixture | 41.3 | 8.7 | 50.0 |
| Street Side | Lumens | 2109.6 | 442.7 | 2552.3 |
| | % Fixture | 41.3 | 8.7 | 50.0 |
| Total | Lumens | 4219.2 | 885.5 | 5104.7 |
| | % Fixture | 82.7 | 17.3 | 100.0 |

Coefficient of Utilization

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 8.0 | 0.2 |
| 10°-20° | 30.1 | 0.6 |
| 20°-30° | 69.4 | 1.4 |
| 30°-40° | 157.0 | 3.1 |
| 40°-50° | 382.6 | 7.5 |
| 50°-60° | 860.3 | 16.9 |
| 60°-70° | 1257.2 | 24.6 |
| 70°-80° | 1095.5 | 21.5 |
| 80°-90° | 359.1 | 7.0 |
| 90°-100° | 45.4 | 0.9 |
| 100°-110° | 70.3 | 1.4 |
| 110°-120° | 97.7 | 1.9 |
| 120°-130° | 126.6 | 2.5 |
| 130°-140° | 147.6 | 2.9 |
| 140°-150° | 149.5 | 2.9 |
| 150°-160° | 129.8 | 2.5 |
| 160°-170° | 87.7 | 1.7 |
| 170°-180° | 30.8 | 0.6 |
| 0°-90° | 4219.2 | 82.7 |
| 0°-180° | 5104.7 | 100.0 |

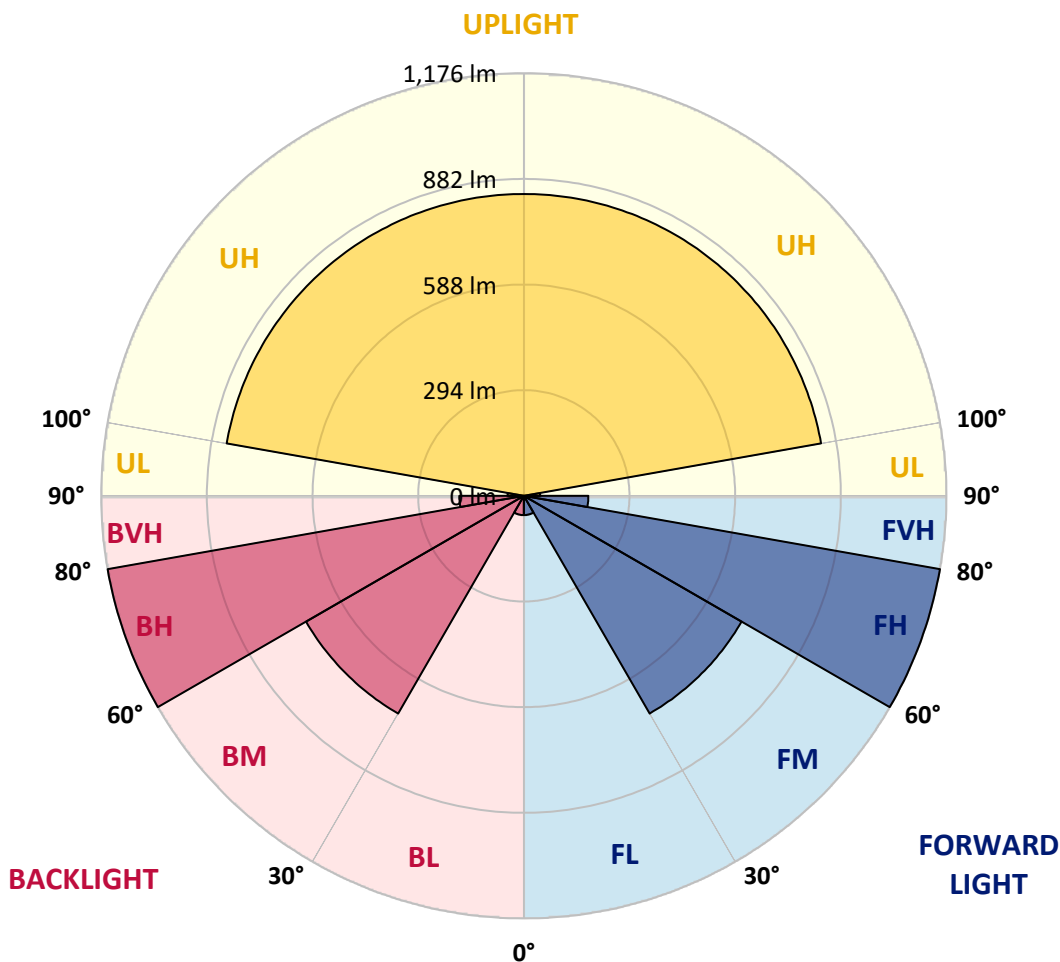


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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | Lumens | % Fixture | Zone Rating/Lumen Limit | | |
|----------------|--------|-----------|-------------------------|---------|---------|
| | | | B | U | G |
| FL (0°-30°) | 53.8 | 1.1 | | | |
| FM (30°-60°) | 699.9 | 13.7 | | | |
| FH (60°-80°) | 1176.4 | 23.0 | | | G1/1800 |
| FVH (80°-90°) | 179.6 | 3.5 | | | G2/225 |
| BL (0°-30°) | 53.8 | 1.1 | B0/110 | | |
| BM (30°-60°) | 699.9 | 13.7 | B1/1000 | | |
| BH (60°-80°) | 1176.4 | 23.0 | B3/2500 | | G3/2500 |
| BVH (80°-90°) | 179.6 | 3.5 | | | G2/225 |
| UL (90°-100°) | 45.4 | 0.9 | | U2/50 | |
| UH (100°-180°) | 840.1 | 16.5 | | U4/1000 | |

BUG Rating: B3-U4-G3
 Type IV Short





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CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 15° | 25° | 35° | 45° | 55° | 65° | 75° | 85° | 90° |
|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 77.0 | 77.0 | 77.0 | 77.0 | 77.0 | 77.0 | 77.0 | 77.0 | 77.0 | 77.0 | 77.0 |
| 2.5° | 78.0 | 78.0 | 79.0 | 79.0 | 79.0 | 79.0 | 79.0 | 79.0 | 79.0 | 79.0 | 79.0 |
| 5° | 81.0 | 81.0 | 81.0 | 81.0 | 82.0 | 82.0 | 81.0 | 81.0 | 81.0 | 81.0 | 81.0 |
| 7.5° | 86.0 | 85.0 | 86.0 | 86.0 | 86.0 | 85.0 | 85.0 | 85.0 | 84.0 | 84.0 | 84.0 |
| 10° | 91.0 | 91.0 | 92.0 | 91.0 | 91.0 | 90.0 | 90.0 | 90.0 | 89.0 | 89.0 | 89.0 |
| 12.5° | 98.0 | 98.0 | 98.0 | 98.0 | 97.0 | 97.0 | 96.0 | 95.0 | 94.0 | 94.0 | 94.0 |
| 15° | 107.0 | 106.0 | 106.0 | 105.0 | 104.0 | 103.0 | 102.0 | 102.0 | 101.0 | 101.0 | 101.0 |
| 17.5° | 116.0 | 116.0 | 115.0 | 114.0 | 112.0 | 111.0 | 111.0 | 110.0 | 109.0 | 109.0 | 109.0 |
| 20° | 127.0 | 127.0 | 126.0 | 124.0 | 122.0 | 121.0 | 120.0 | 120.0 | 119.0 | 119.0 | 119.0 |
| 22.5° | 140.0 | 139.0 | 137.0 | 135.0 | 133.0 | 132.0 | 131.0 | 130.0 | 130.0 | 130.0 | 130.0 |
| 25° | 154.0 | 153.0 | 152.0 | 149.0 | 146.0 | 145.0 | 143.0 | 143.0 | 142.0 | 143.0 | 143.0 |
| 27.5° | 171.0 | 170.0 | 168.0 | 165.0 | 161.0 | 159.0 | 158.0 | 158.0 | 159.0 | 159.0 | 160.0 |
| 30° | 192.0 | 190.0 | 188.0 | 184.0 | 180.0 | 177.0 | 177.0 | 178.0 | 181.0 | 183.0 | 183.0 |
| 32.5° | 217.0 | 216.0 | 213.0 | 209.0 | 202.0 | 200.0 | 202.0 | 208.0 | 212.0 | 215.0 | 217.0 |
| 35° | 246.0 | 245.0 | 241.0 | 234.0 | 229.0 | 228.0 | 234.0 | 244.0 | 257.0 | 261.0 | 263.0 |
| 37.5° | 278.0 | 279.0 | 274.0 | 266.0 | 261.0 | 263.0 | 275.0 | 294.0 | 307.0 | 316.0 | 318.0 |
| 40° | 318.0 | 320.0 | 314.0 | 305.0 | 300.0 | 308.0 | 327.0 | 349.0 | 372.0 | 383.0 | 386.0 |
| 42.5° | 365.0 | 368.0 | 360.0 | 351.0 | 348.0 | 361.0 | 388.0 | 424.0 | 465.1 | 478.1 | 483.1 |
| 45° | 423.0 | 425.0 | 415.0 | 407.0 | 405.0 | 428.0 | 474.1 | 534.1 | 599.1 | 629.1 | 634.1 |
| 47.5° | 492.1 | 491.1 | 482.1 | 472.1 | 474.1 | 507.1 | 576.1 | 657.1 | 726.1 | 772.1 | 782.1 |
| 50° | 571.1 | 566.1 | 559.1 | 547.1 | 560.1 | 608.1 | 695.1 | 793.1 | 909.1 | 950.1 | 968.1 |
| 52.5° | 650.1 | 641.1 | 635.1 | 627.1 | 650.1 | 712.1 | 834.1 | 1005.1 | 1180.1 | 1274.1 | 1293.1 |
| 55° | 721.1 | 714.1 | 711.1 | 712.1 | 748.1 | 837.1 | 997.1 | 1216.1 | 1385.2 | 1463.2 | 1477.2 |
| 57.5° | 791.1 | 787.1 | 784.1 | 790.1 | 847.1 | 963.1 | 1143.1 | 1348.2 | 1487.2 | 1545.2 | 1555.2 |
| 60° | 857.1 | 861.1 | 859.1 | 877.1 | 946.1 | 1063.1 | 1219.1 | 1421.2 | 1555.2 | 1608.2 | 1619.2 |
| 62.5° | 930.1 | 933.1 | 933.1 | 953.1 | 1009.1 | 1112.1 | 1271.1 | 1507.2 | 1677.2 | 1755.2 | 1767.2 |
| 65° | 993.1 | 995.1 | 999.1 | 1000.1 | 1052.1 | 1155.1 | 1363.2 | 1586.2 | 1738.2 | 1828.2 | 1836.2 |
| 67.5° | 1040.1 | 1042.1 | 1037.1 | 1032.1 | 1072.1 | 1165.1 | 1356.2 | 1576.2 | 1711.2 | 1779.2 | 1785.2 |
| 70° | 1078.1 | 1069.1 | 1055.1 | 1030.1 | 1043.1 | 1113.1 | 1298.1 | 1496.2 | 1632.2 | 1693.2 | 1702.2 |
| 72.5° | 1083.1 | 1075.1 | 1031.1 | 975.1 | 959.1 | 1020.1 | 1196.1 | 1374.2 | 1491.2 | 1549.2 | 1550.2 |
| 75° | 1053.1 | 1032.1 | 959.1 | 875.1 | 845.1 | 903.1 | 1054.1 | 1216.1 | 1310.1 | 1359.2 | 1364.2 |
| 77.5° | 952.1 | 932.1 | 840.1 | 744.1 | 710.1 | 760.1 | 888.1 | 1019.1 | 1109.1 | 1157.1 | 1160.1 |
| 80° | 773.1 | 766.1 | 682.1 | 594.1 | 553.1 | 582.1 | 694.1 | 797.1 | 870.1 | 927.1 | 932.1 |
| 82.5° | 570.1 | 564.1 | 500.1 | 423.0 | 390.0 | 414.0 | 494.1 | 570.1 | 638.1 | 684.1 | 687.1 |
| 85° | 356.0 | 344.0 | 304.0 | 250.0 | 228.0 | 244.0 | 297.0 | 348.0 | 409.0 | 445.1 | 447.1 |
| 87.5° | 119.0 | 114.0 | 98.0 | 81.0 | 68.0 | 71.0 | 87.0 | 106.0 | 155.0 | 171.0 | 181.0 |
| 90° | 32.0 | 31.0 | 31.0 | 31.0 | 31.0 | 31.0 | 31.0 | 31.0 | 31.0 | 31.0 | 31.0 |
| 92.5° | 37.0 | 37.0 | 36.0 | 36.0 | 36.0 | 36.0 | 36.0 | 36.0 | 36.0 | 36.0 | 36.0 |
| 95° | 42.0 | 42.0 | 42.0 | 41.0 | 41.0 | 41.0 | 41.0 | 41.0 | 41.0 | 41.0 | 41.0 |
| 97.5° | 48.0 | 48.0 | 47.0 | 47.0 | 47.0 | 47.0 | 47.0 | 47.0 | 47.0 | 47.0 | 47.0 |
| 100° | 53.0 | 53.0 | 53.0 | 53.0 | 53.0 | 53.0 | 53.0 | 53.0 | 53.0 | 53.0 | 53.0 |
| 102.5° | 60.0 | 59.0 | 60.0 | 60.0 | 59.0 | 59.0 | 59.0 | 60.0 | 60.0 | 60.0 | 59.0 |
| 105° | 66.0 | 66.0 | 66.0 | 66.0 | 66.0 | 66.0 | 66.0 | 67.0 | 66.0 | 66.0 | 66.0 |
| 107.5° | 73.0 | 73.0 | 73.0 | 74.0 | 74.0 | 74.0 | 74.0 | 74.0 | 73.0 | 74.0 | 73.0 |
| 110° | 80.0 | 80.0 | 81.0 | 81.0 | 81.0 | 81.0 | 81.0 | 81.0 | 81.0 | 81.0 | 81.0 |



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CANDELA DISTRIBUTION (continued):

| | 0° | 5° | 15° | 25° | 35° | 45° | 55° | 65° | 75° | 85° | 90° |
|--------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 112.5° | 89.0 | 89.0 | 89.0 | 89.0 | 89.0 | 90.0 | 90.0 | 90.0 | 90.0 | 90.0 | 89.0 |
| 115° | 97.0 | 97.0 | 98.0 | 98.0 | 98.0 | 98.0 | 99.0 | 99.0 | 98.0 | 98.0 | 98.0 |
| 117.5° | 107.0 | 107.0 | 107.0 | 107.0 | 107.0 | 108.0 | 108.0 | 108.0 | 108.0 | 108.0 | 107.0 |
| 120° | 117.0 | 117.0 | 117.0 | 118.0 | 118.0 | 118.0 | 119.0 | 119.0 | 118.0 | 118.0 | 118.0 |
| 122.5° | 129.0 | 128.0 | 129.0 | 129.0 | 129.0 | 129.0 | 130.0 | 130.0 | 130.0 | 130.0 | 129.0 |
| 125° | 140.0 | 140.0 | 141.0 | 141.0 | 141.0 | 141.0 | 142.0 | 142.0 | 142.0 | 142.0 | 141.0 |
| 127.5° | 153.0 | 153.0 | 153.0 | 153.0 | 153.0 | 154.0 | 154.0 | 154.0 | 154.0 | 154.0 | 154.0 |
| 130° | 165.0 | 165.0 | 166.0 | 166.0 | 166.0 | 166.0 | 167.0 | 167.0 | 167.0 | 167.0 | 166.0 |
| 132.5° | 179.0 | 178.0 | 179.0 | 178.0 | 178.0 | 179.0 | 179.0 | 180.0 | 179.0 | 180.0 | 179.0 |
| 135° | 191.0 | 191.0 | 191.0 | 191.0 | 191.0 | 192.0 | 192.0 | 192.0 | 192.0 | 192.0 | 192.0 |
| 137.5° | 204.0 | 203.0 | 204.0 | 203.0 | 203.0 | 204.0 | 204.0 | 204.0 | 204.0 | 204.0 | 204.0 |
| 140° | 216.0 | 215.0 | 216.0 | 215.0 | 216.0 | 216.0 | 216.0 | 216.0 | 216.0 | 216.0 | 216.0 |
| 142.5° | 228.0 | 227.0 | 228.0 | 227.0 | 227.0 | 228.0 | 228.0 | 228.0 | 228.0 | 228.0 | 228.0 |
| 145° | 239.0 | 239.0 | 239.0 | 238.0 | 239.0 | 239.0 | 239.0 | 239.0 | 239.0 | 239.0 | 239.0 |
| 147.5° | 250.0 | 249.0 | 250.0 | 249.0 | 249.0 | 250.0 | 250.0 | 250.0 | 250.0 | 250.0 | 250.0 |
| 150° | 263.0 | 262.0 | 263.0 | 262.0 | 263.0 | 263.0 | 263.0 | 263.0 | 263.0 | 263.0 | 263.0 |
| 152.5° | 273.0 | 273.0 | 273.0 | 273.0 | 273.0 | 273.0 | 273.0 | 273.0 | 273.0 | 273.0 | 273.0 |
| 155° | 282.0 | 282.0 | 283.0 | 282.0 | 282.0 | 282.0 | 283.0 | 282.0 | 282.0 | 282.0 | 282.0 |
| 157.5° | 290.0 | 290.0 | 290.0 | 290.0 | 290.0 | 290.0 | 291.0 | 291.0 | 290.0 | 291.0 | 290.0 |
| 160° | 298.0 | 298.0 | 299.0 | 298.0 | 298.0 | 298.0 | 299.0 | 298.0 | 298.0 | 298.0 | 298.0 |
| 162.5° | 306.0 | 305.0 | 306.0 | 305.0 | 306.0 | 306.0 | 306.0 | 306.0 | 306.0 | 306.0 | 306.0 |
| 165° | 311.0 | 311.0 | 312.0 | 311.0 | 311.0 | 311.0 | 312.0 | 311.0 | 311.0 | 311.0 | 311.0 |
| 167.5° | 316.0 | 315.0 | 316.0 | 316.0 | 316.0 | 316.0 | 316.0 | 316.0 | 316.0 | 316.0 | 316.0 |
| 170° | 319.0 | 319.0 | 320.0 | 319.0 | 319.0 | 319.0 | 320.0 | 319.0 | 319.0 | 319.0 | 319.0 |
| 172.5° | 323.0 | 323.0 | 323.0 | 323.0 | 323.0 | 323.0 | 323.0 | 323.0 | 323.0 | 323.0 | 323.0 |
| 175° | 324.0 | 324.0 | 325.0 | 324.0 | 325.0 | 324.0 | 325.0 | 324.0 | 324.0 | 324.0 | 324.0 |
| 177.5° | 325.0 | 325.0 | 326.0 | 325.0 | 325.0 | 325.0 | 325.0 | 325.0 | 325.0 | 325.0 | 325.0 |
| 180° | 326.0 | 326.0 | 326.0 | 326.0 | 326.0 | 326.0 | 326.0 | 326.0 | 326.0 | 326.0 | 326.0 |

(END OF REPORT)