

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: P270300

Luminaire Tested: **NAV-AF-01-D-UNV-T2-7027-1200**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P270300
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24136)
Test Lab: INNOVATION CENTER P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: LUMARK
Catalog Number: NAV-AF-01-D-UNV-T2-7027-1200
Description: NAVION ROADWAY AND AREA LUMINAIRE
(1) 70 CRI, 2700K, 1200mA LIGHTSQUARE WITH 16 LEDS EACH AND TYPE II OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5699.4 lumens
Efficiency: N/A
Efficacy: 85.1 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')
IES Classification: Type II - Medium - Full Cutoff
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: 25 FT

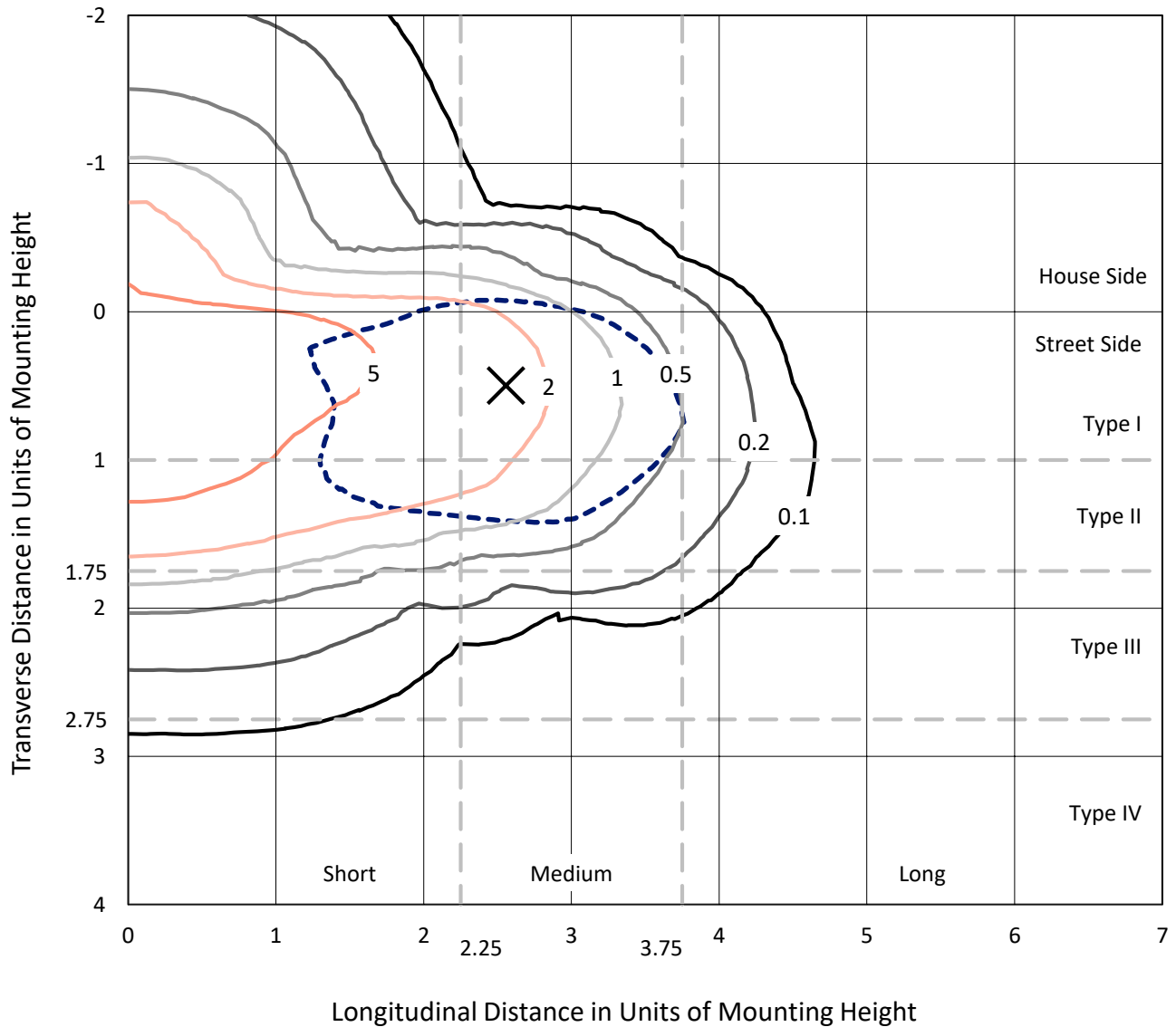


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Iso-Footcandle Lines of Horizontal Illumination

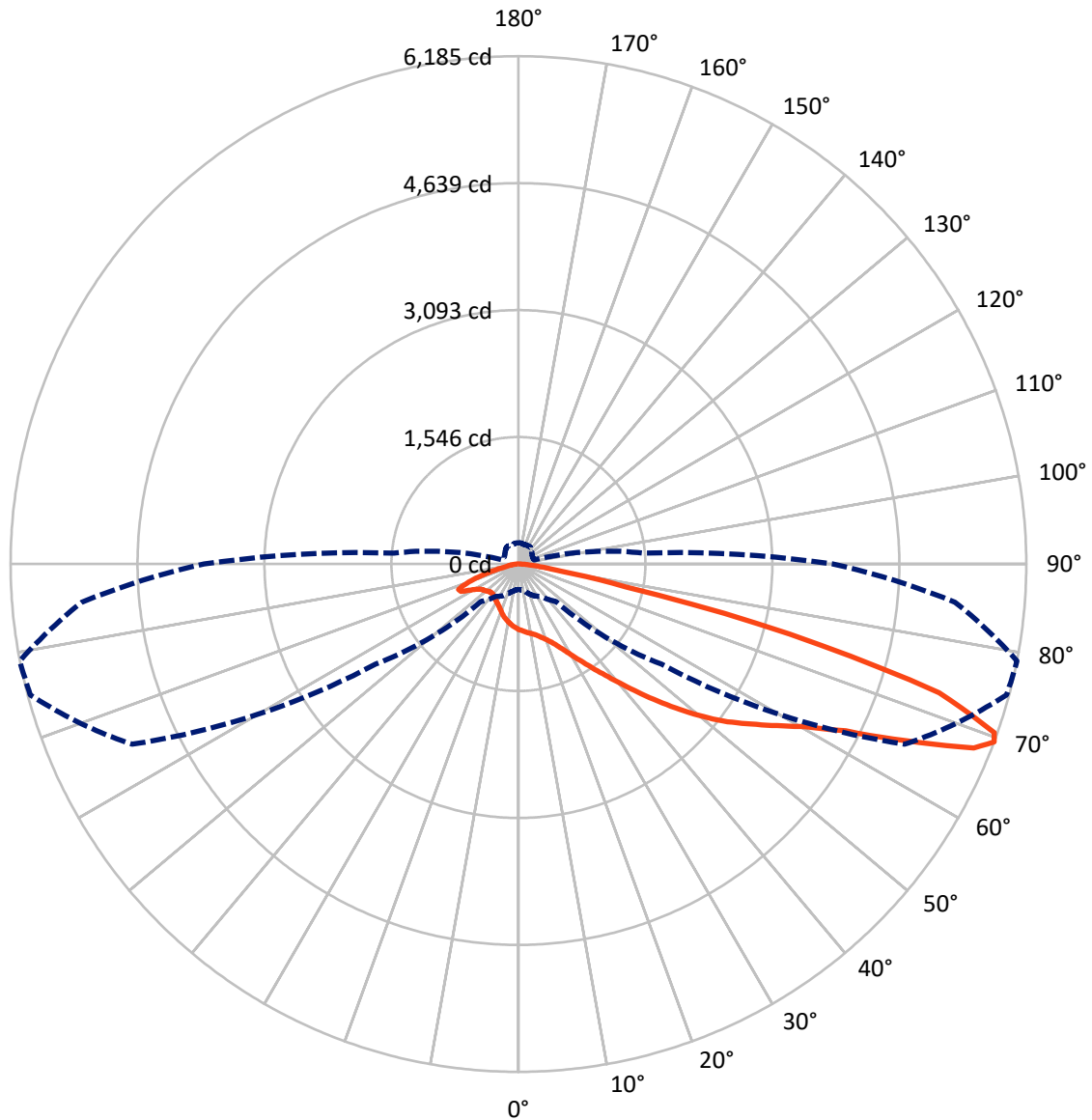
× Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 9.7 fc
 Type II - Medium - Full Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 79-Deg Lateral - - - Horizontal Cone Through 69-Deg Vertical

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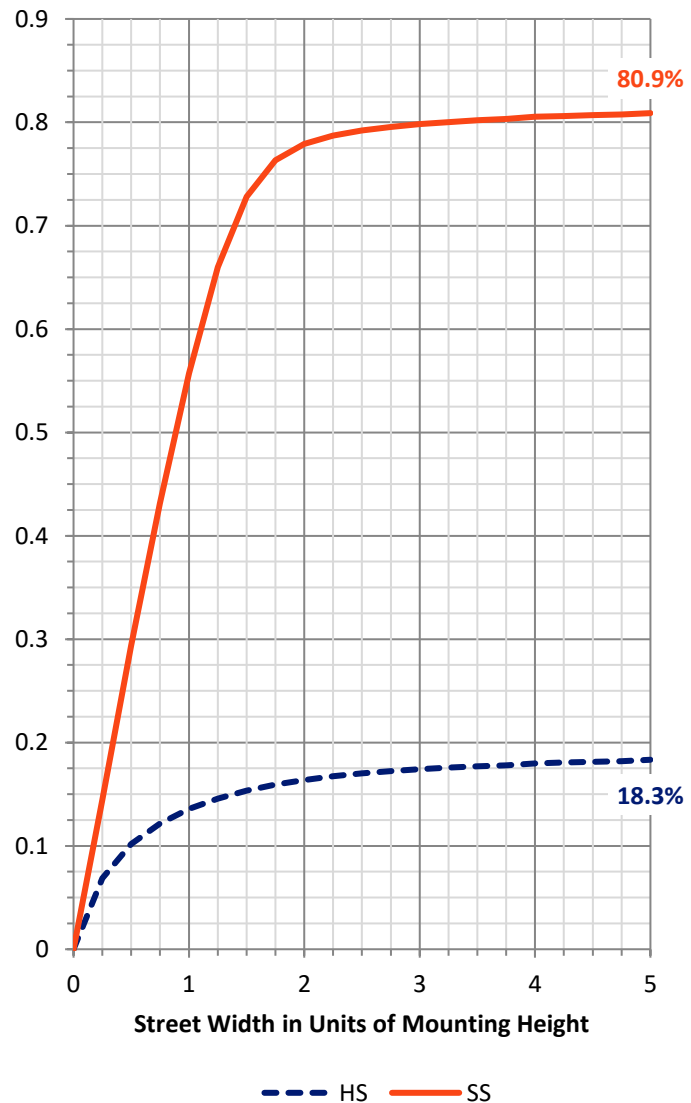
FLUX DISTRIBUTION:

| | | Downward | Upward | Total |
|--------------------|-----------|----------|--------|--------|
| House Side | Lumens | 1072.2 | 0.0 | 1072.2 |
| | % Fixture | 18.8 | 0.0 | 18.8 |
| Street Side | Lumens | 4627.3 | 0.0 | 4627.3 |
| | % Fixture | 81.2 | 0.0 | 81.2 |
| Total | Lumens | 5699.4 | 0.0 | 5699.4 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 74.1 | 1.3 |
| 10°-20° | 212.6 | 3.7 |
| 20°-30° | 351.3 | 6.2 |
| 30°-40° | 568.8 | 10.0 |
| 40°-50° | 908.6 | 15.9 |
| 50°-60° | 1301.3 | 22.8 |
| 60°-70° | 1449.8 | 25.4 |
| 70°-80° | 725.3 | 12.7 |
| 80°-90° | 107.6 | 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° | 5699.4 | 100.0 |
| 0°-180° | 5699.4 | 100.0 |

Coefficient of Utilization



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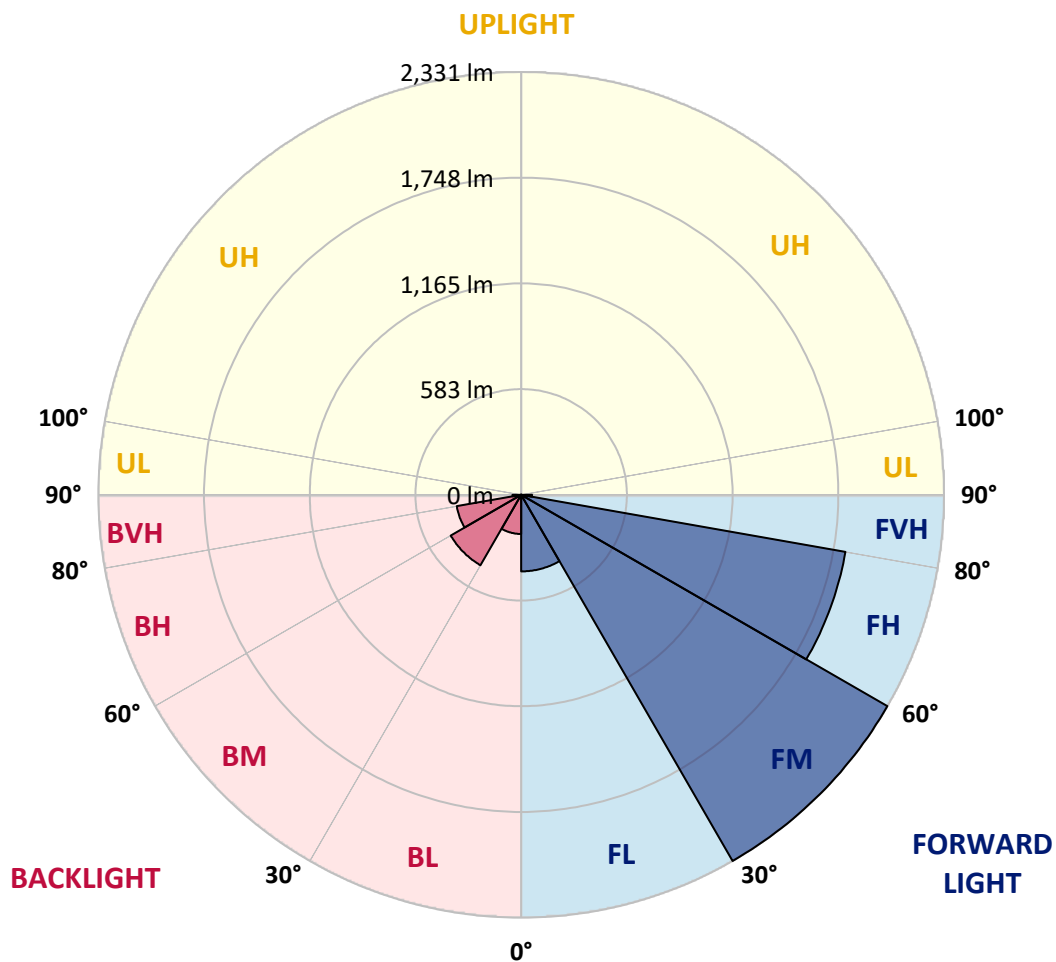
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | Lumens | % Fixture | Zone Rating/Lumen Limit | | |
|----------------|--------|-----------|-------------------------|------|---------|
| | | | B | U | G |
| FL (0°-30°) | 422.0 | 7.4 | | | |
| FM (30°-60°) | 2330.5 | 40.9 | | | |
| FH (60°-80°) | 1814.6 | 31.8 | | | G2/5000 |
| FVH (80°-90°) | 60.1 | 1.1 | | | G1/100 |
| BL (0°-30°) | 216.0 | 3.8 | B1/500 | | |
| BM (30°-60°) | 448.2 | 7.9 | B1/1000 | | |
| BH (60°-80°) | 360.5 | 6.3 | B1/500 | | G1/500 |
| BVH (80°-90°) | 47.5 | 0.8 | | | 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





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CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 15° | 25° | 35° | 45° | 55° | 65° | 75° | 79° | 85° |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 799.9 | 799.9 | 799.9 | 799.9 | 799.9 | 799.9 | 799.9 | 799.9 | 799.9 | 799.9 | 799.9 |
| 2.5° | 878.2 | 876.2 | 875.8 | 870.3 | 867.4 | 860.9 | 846.1 | 830.8 | 816.6 | 809.2 | 801.3 |
| 5° | 951.6 | 947.8 | 945.9 | 936.7 | 928.5 | 914.2 | 890.8 | 866.5 | 841.3 | 828.1 | 812.4 |
| 7.5° | 996.0 | 996.3 | 996.3 | 988.9 | 980.7 | 963.5 | 933.7 | 900.6 | 862.8 | 845.7 | 821.1 |
| 10° | 999.6 | 1000.1 | 1005.7 | 1007.4 | 1009.3 | 1000.4 | 972.9 | 931.1 | 882.6 | 860.2 | 828.1 |
| 12.5° | 962.8 | 965.4 | 974.8 | 988.1 | 1007.1 | 1016.8 | 1004.9 | 963.9 | 907.9 | 880.7 | 841.6 |
| 15° | 913.1 | 915.8 | 927.7 | 948.3 | 978.9 | 1011.2 | 1028.0 | 1001.5 | 941.2 | 909.1 | 861.4 |
| 17.5° | 889.0 | 891.8 | 900.1 | 916.5 | 946.4 | 990.0 | 1040.2 | 1041.9 | 980.3 | 943.4 | 884.8 |
| 20° | 877.4 | 879.6 | 890.0 | 903.4 | 926.2 | 968.0 | 1041.5 | 1084.3 | 1026.9 | 984.1 | 913.5 |
| 22.5° | 903.9 | 904.7 | 909.9 | 917.3 | 932.6 | 964.6 | 1040.6 | 1128.4 | 1085.1 | 1035.0 | 950.4 |
| 25° | 981.4 | 976.5 | 972.9 | 963.5 | 967.3 | 990.0 | 1052.6 | 1175.3 | 1159.6 | 1102.2 | 999.6 |
| 27.5° | 1073.1 | 1072.3 | 1062.7 | 1041.0 | 1027.3 | 1041.9 | 1086.6 | 1227.9 | 1251.0 | 1187.6 | 1064.2 |
| 30° | 1175.3 | 1175.7 | 1165.6 | 1139.1 | 1111.2 | 1112.6 | 1140.6 | 1288.7 | 1360.3 | 1290.5 | 1143.6 |
| 32.5° | 1282.3 | 1289.0 | 1270.5 | 1244.0 | 1209.9 | 1199.1 | 1218.2 | 1362.1 | 1486.7 | 1412.0 | 1235.7 |
| 35° | 1410.2 | 1411.3 | 1390.8 | 1352.0 | 1318.2 | 1300.9 | 1318.5 | 1453.8 | 1632.4 | 1554.8 | 1347.9 |
| 37.5° | 1543.0 | 1543.6 | 1522.4 | 1472.9 | 1430.0 | 1418.9 | 1438.1 | 1565.3 | 1786.8 | 1717.5 | 1480.0 |
| 40° | 1651.4 | 1659.3 | 1642.6 | 1595.8 | 1552.6 | 1546.0 | 1573.9 | 1698.9 | 1984.0 | 1909.8 | 1636.9 |
| 42.5° | 1774.5 | 1783.5 | 1763.4 | 1714.9 | 1680.5 | 1678.4 | 1722.0 | 1851.0 | 2180.1 | 2132.4 | 1814.8 |
| 45° | 1913.2 | 1925.8 | 1897.8 | 1843.5 | 1814.3 | 1863.7 | 1866.1 | 2019.5 | 2406.2 | 2381.5 | 2015.0 |
| 47.5° | 2064.7 | 2075.1 | 2052.3 | 1993.8 | 1962.1 | 2033.3 | 2007.5 | 2201.8 | 2650.4 | 2648.6 | 2231.7 |
| 50° | 2181.4 | 2192.9 | 2195.1 | 2169.3 | 2136.2 | 2145.2 | 2162.7 | 2393.4 | 2893.9 | 2922.9 | 2455.7 |
| 52.5° | 2160.1 | 2171.3 | 2221.6 | 2289.2 | 2342.4 | 2319.2 | 2340.5 | 2597.1 | 3129.2 | 3190.7 | 2668.7 |
| 55° | 1988.6 | 1994.4 | 2088.9 | 2249.1 | 2476.3 | 2586.6 | 2588.1 | 2818.5 | 3352.8 | 3439.0 | 2870.8 |
| 57.5° | 1679.4 | 1680.2 | 1802.9 | 2039.2 | 2398.4 | 2760.0 | 2978.9 | 3096.6 | 3586.4 | 3713.5 | 3121.3 |
| 60° | 1188.4 | 1191.3 | 1334.2 | 1643.3 | 2119.0 | 2739.1 | 3399.1 | 3594.5 | 3856.7 | 4021.8 | 3444.2 |
| 62.5° | 705.4 | 712.1 | 820.0 | 1067.9 | 1573.9 | 2470.7 | 3647.5 | 4480.0 | 4254.8 | 4474.1 | 3961.0 |
| 65° | 459.0 | 464.7 | 529.1 | 653.6 | 929.9 | 1797.6 | 3565.8 | 5337.6 | 5008.4 | 5185.6 | 4703.9 |
| 67.5° | 353.6 | 358.0 | 408.6 | 483.9 | 570.6 | 971.6 | 2851.0 | 5517.4 | 5925.7 | 5980.8 | 5330.6 |
| 69° | 310.6 | 314.3 | 351.6 | 424.0 | 480.2 | 643.1 | 2124.6 | 5191.1 | 6155.0 | 6185.2 | 5338.4 |
| 70° | 287.8 | 290.8 | 325.8 | 388.5 | 441.1 | 513.4 | 1626.1 | 4812.3 | 6071.1 | 6148.3 | 5184.5 |
| 72.5° | 237.2 | 239.8 | 264.7 | 312.8 | 360.6 | 365.8 | 720.4 | 3514.0 | 5112.2 | 5359.0 | 4387.2 |
| 75° | 197.9 | 199.6 | 216.0 | 250.9 | 291.9 | 291.2 | 368.0 | 1990.5 | 3119.5 | 3413.6 | 2708.8 |
| 77.5° | 165.2 | 166.2 | 177.1 | 198.7 | 230.4 | 229.2 | 259.2 | 859.0 | 1377.5 | 1329.0 | 932.6 |
| 80° | 145.7 | 146.6 | 152.2 | 157.7 | 177.9 | 176.7 | 192.1 | 394.4 | 560.5 | 518.0 | 352.8 |
| 82.5° | 110.8 | 112.3 | 140.6 | 143.2 | 138.0 | 133.0 | 133.8 | 229.6 | 287.1 | 261.3 | 189.5 |
| 85° | 62.6 | 63.1 | 90.2 | 105.6 | 120.1 | 90.2 | 86.9 | 118.5 | 141.8 | 124.1 | 82.7 |
| 87.5° | 27.9 | 29.0 | 43.3 | 49.9 | 64.9 | 52.9 | 49.5 | 50.3 | 61.2 | 50.8 | 32.8 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |



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CATALOG NUMBER: NAV-AF-01-D-UNV-T2-7027-1200

CANDELA DISTRIBUTION (continued):

| | 90° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|-------|--------|--------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0° | 799.9 | 799.9 | 799.9 | 799.9 | 799.9 | 799.9 | 799.9 | 799.9 | 799.9 | 799.9 | 799.9 |
| 2.5° | 793.8 | 787.5 | 772.6 | 757.4 | 742.0 | 732.3 | 722.2 | 713.0 | 709.2 | 708.9 | 701.8 |
| 5° | 797.2 | 782.2 | 748.4 | 711.1 | 675.6 | 648.0 | 625.0 | 609.9 | 595.4 | 592.9 | 586.6 |
| 7.5° | 798.4 | 774.1 | 719.0 | 659.3 | 605.2 | 567.1 | 544.1 | 534.0 | 526.9 | 525.0 | 522.8 |
| 10° | 798.0 | 763.6 | 686.0 | 604.4 | 542.8 | 514.2 | 505.7 | 507.8 | 510.9 | 512.4 | 512.4 |
| 12.5° | 804.0 | 758.8 | 653.2 | 552.9 | 502.6 | 488.9 | 495.5 | 507.2 | 516.0 | 519.8 | 520.6 |
| 15° | 814.8 | 755.8 | 617.1 | 508.3 | 474.2 | 477.7 | 494.1 | 510.9 | 523.5 | 529.1 | 530.5 |
| 17.5° | 828.1 | 751.7 | 575.4 | 471.3 | 457.9 | 469.5 | 490.7 | 511.9 | 527.2 | 534.3 | 535.4 |
| 20° | 843.1 | 745.8 | 532.1 | 443.8 | 443.4 | 457.9 | 479.2 | 503.1 | 519.4 | 527.2 | 526.9 |
| 22.5° | 863.2 | 740.2 | 491.8 | 423.6 | 427.4 | 440.8 | 458.2 | 479.9 | 495.1 | 502.2 | 500.7 |
| 25° | 890.0 | 735.0 | 455.6 | 405.7 | 409.1 | 418.0 | 430.3 | 446.6 | 457.4 | 461.2 | 458.7 |
| 27.5° | 926.2 | 730.9 | 427.4 | 389.2 | 388.8 | 393.0 | 400.5 | 409.4 | 414.7 | 413.5 | 409.4 |
| 30° | 970.6 | 726.6 | 406.5 | 374.8 | 369.6 | 369.2 | 372.4 | 377.6 | 381.2 | 374.4 | 371.0 |
| 32.5° | 1020.1 | 719.6 | 387.8 | 362.0 | 352.8 | 349.4 | 350.9 | 358.0 | 371.8 | 365.0 | 362.5 |
| 35° | 1078.8 | 711.5 | 369.2 | 348.3 | 341.1 | 334.9 | 336.0 | 351.2 | 393.0 | 388.2 | 385.6 |
| 37.5° | 1149.2 | 704.0 | 352.0 | 333.4 | 333.0 | 325.1 | 324.4 | 342.7 | 398.6 | 388.2 | 385.9 |
| 40° | 1233.8 | 702.5 | 336.8 | 316.9 | 322.9 | 319.9 | 317.3 | 328.5 | 367.6 | 346.3 | 342.3 |
| 42.5° | 1336.0 | 709.2 | 325.5 | 301.3 | 311.4 | 318.4 | 313.6 | 316.3 | 332.3 | 313.1 | 309.8 |
| 45° | 1455.3 | 727.4 | 317.3 | 287.5 | 299.0 | 317.3 | 311.7 | 309.5 | 312.2 | 301.7 | 299.4 |
| 47.5° | 1594.4 | 760.0 | 311.7 | 275.9 | 287.5 | 314.3 | 311.0 | 306.5 | 305.3 | 299.4 | 297.9 |
| 50° | 1743.3 | 803.5 | 307.9 | 265.4 | 277.0 | 309.0 | 310.6 | 304.3 | 302.4 | 299.8 | 299.0 |
| 52.5° | 1890.8 | 851.0 | 303.4 | 256.6 | 268.5 | 302.8 | 311.0 | 302.0 | 299.4 | 297.9 | 297.2 |
| 55° | 2037.7 | 900.1 | 295.4 | 248.7 | 262.1 | 295.4 | 310.6 | 299.0 | 296.0 | 296.0 | 296.0 |
| 57.5° | 2228.2 | 975.1 | 284.6 | 242.4 | 254.0 | 285.7 | 305.8 | 295.7 | 291.6 | 291.9 | 292.3 |
| 60° | 2503.4 | 1100.8 | 272.5 | 235.3 | 243.1 | 274.4 | 298.2 | 289.8 | 284.9 | 286.4 | 286.7 |
| 62.5° | 2963.1 | 1320.4 | 256.1 | 225.2 | 231.9 | 262.6 | 288.5 | 281.4 | 277.0 | 279.6 | 280.0 |
| 65° | 3576.2 | 1586.1 | 234.5 | 212.4 | 220.4 | 249.1 | 276.3 | 271.8 | 266.9 | 273.4 | 272.9 |
| 67.5° | 3950.2 | 1664.1 | 211.8 | 199.2 | 209.1 | 234.8 | 261.0 | 259.2 | 255.7 | 266.9 | 266.3 |
| 69° | 3827.6 | 1523.2 | 198.7 | 190.5 | 201.4 | 225.2 | 251.3 | 250.5 | 247.9 | 258.8 | 258.1 |
| 70° | 3637.0 | 1391.6 | 190.5 | 185.0 | 197.3 | 219.2 | 245.0 | 245.0 | 242.4 | 251.6 | 249.8 |
| 72.5° | 2921.5 | 1032.2 | 171.5 | 170.8 | 183.1 | 202.8 | 227.8 | 229.6 | 228.2 | 231.6 | 229.6 |
| 75° | 1715.3 | 621.9 | 152.9 | 155.0 | 165.9 | 185.3 | 208.8 | 210.4 | 208.8 | 208.4 | 208.8 |
| 77.5° | 594.8 | 279.0 | 134.9 | 138.2 | 147.6 | 167.4 | 187.9 | 190.9 | 188.6 | 186.0 | 186.8 |
| 80° | 232.8 | 162.2 | 115.6 | 120.5 | 128.3 | 147.3 | 167.1 | 168.9 | 165.6 | 165.2 | 162.2 |
| 82.5° | 139.9 | 98.9 | 89.9 | 97.6 | 107.3 | 127.9 | 144.3 | 143.5 | 140.9 | 156.2 | 136.8 |
| 85° | 60.7 | 54.7 | 65.7 | 73.4 | 78.3 | 95.8 | 121.9 | 118.5 | 112.3 | 98.9 | 96.6 |
| 87.5° | 24.7 | 28.3 | 36.2 | 43.6 | 47.0 | 62.0 | 83.5 | 80.6 | 81.7 | 67.2 | 66.7 |
| 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)