

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: P197189

Luminaire Tested: **NAV-AF-05-D-UNV-SLR-8030-600**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P197189
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24264)
Test Lab: INNOVATION CENTER P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: LUMARK
Catalog Number: NAV-AF-05-D-UNV-SLR-8030-600
Description: NAVION ROADWAY AND AREA LUMINAIRE
(5) 80 CRI, 3000K, 615mA LIGHTSQUARES WITH 16 LEDS EACH AND SPILL LIGHT
ELIMINATOR RIGHT OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 14278 lumens
Efficiency: N/A
Efficacy: 88.1 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1.5' x H: 0')
IES Classification: Type IV - Short - Non-Cutoff
BUG Rating: B2 - U0 - G3

Input Watts (W): 162
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

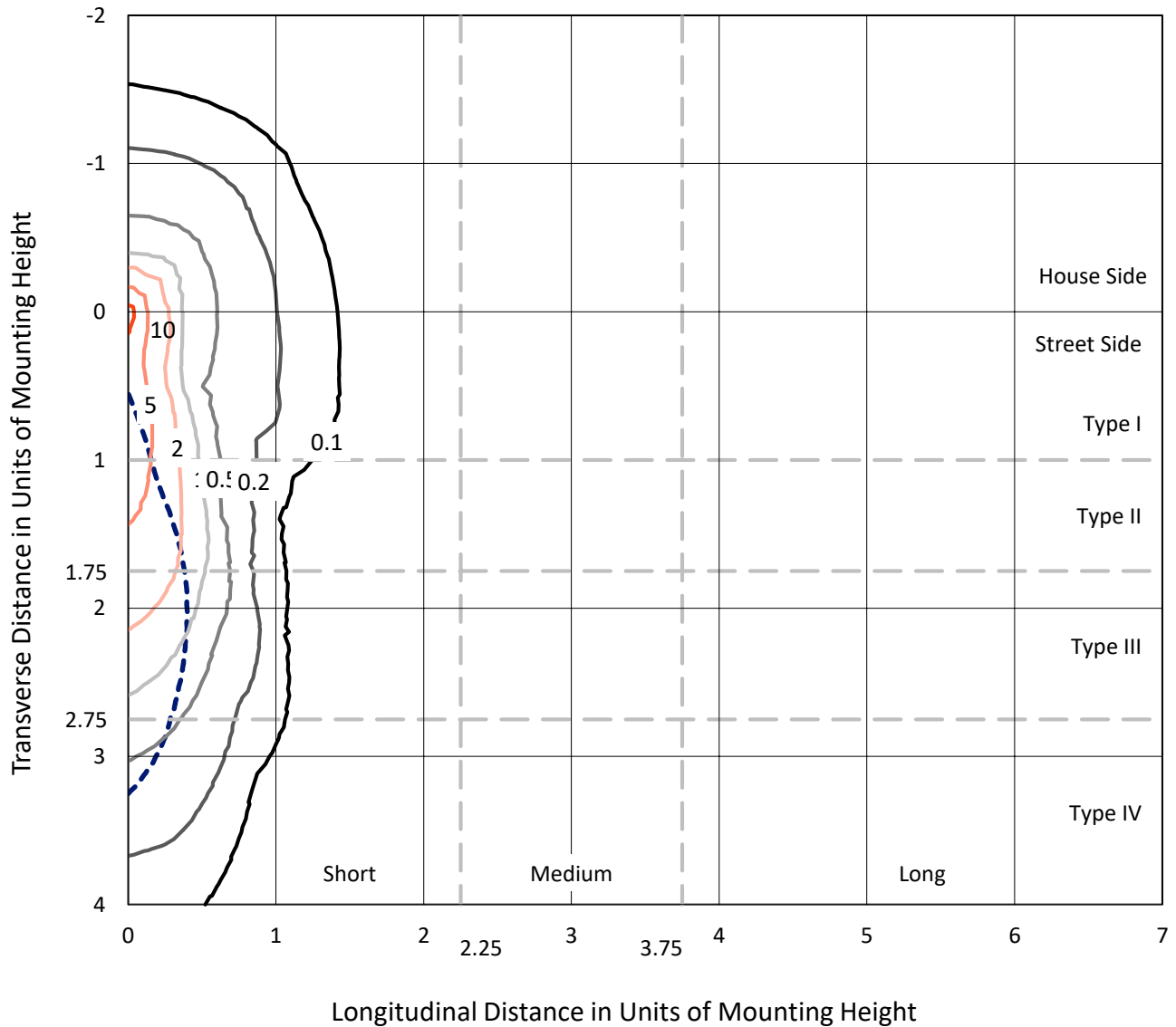


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Iso-Footcandle Lines of Horizontal Illumination

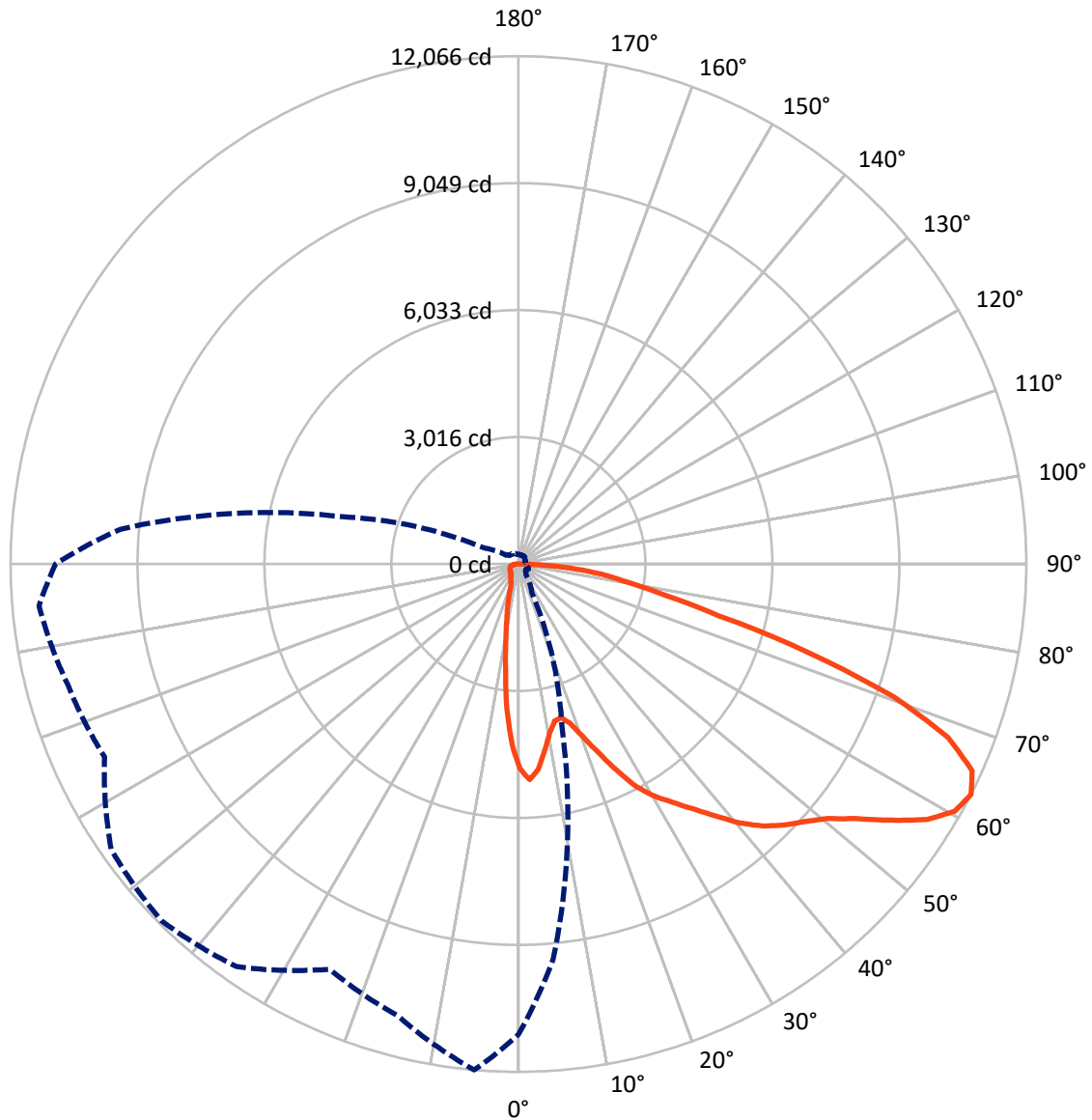
× Max cd
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 12.2 fc
 Type IV - Short - Non-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 355-Deg Lateral - - - Horizontal Cone Through 62.5-Deg Vertical

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FLUX DISTRIBUTION:

| | | Downward | Upward | Total |
|--------------------|-----------|----------|--------|---------|
| House Side | Lumens | 2529.4 | 0.0 | 2529.4 |
| | % Fixture | 17.7 | 0.0 | 17.7 |
| Street Side | Lumens | 11748.6 | 0.0 | 11748.6 |
| | % Fixture | 82.3 | 0.0 | 82.3 |
| Total | Lumens | 14278.0 | 0.0 | 14278.0 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

Coefficient of Utilization

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|---------|-----------|
| 0°-10° | 354.0 | 2.5 |
| 10°-20° | 646.6 | 4.5 |
| 20°-30° | 929.9 | 6.5 |
| 30°-40° | 1424.3 | 10.0 |
| 40°-50° | 2082.4 | 14.6 |
| 50°-60° | 3029.9 | 21.2 |
| 60°-70° | 3510.5 | 24.6 |
| 70°-80° | 1830.0 | 12.8 |
| 80°-90° | 470.4 | 3.3 |
| 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° | 14278.0 | 100.0 |
| 0°-180° | 14278.0 | 100.0 |



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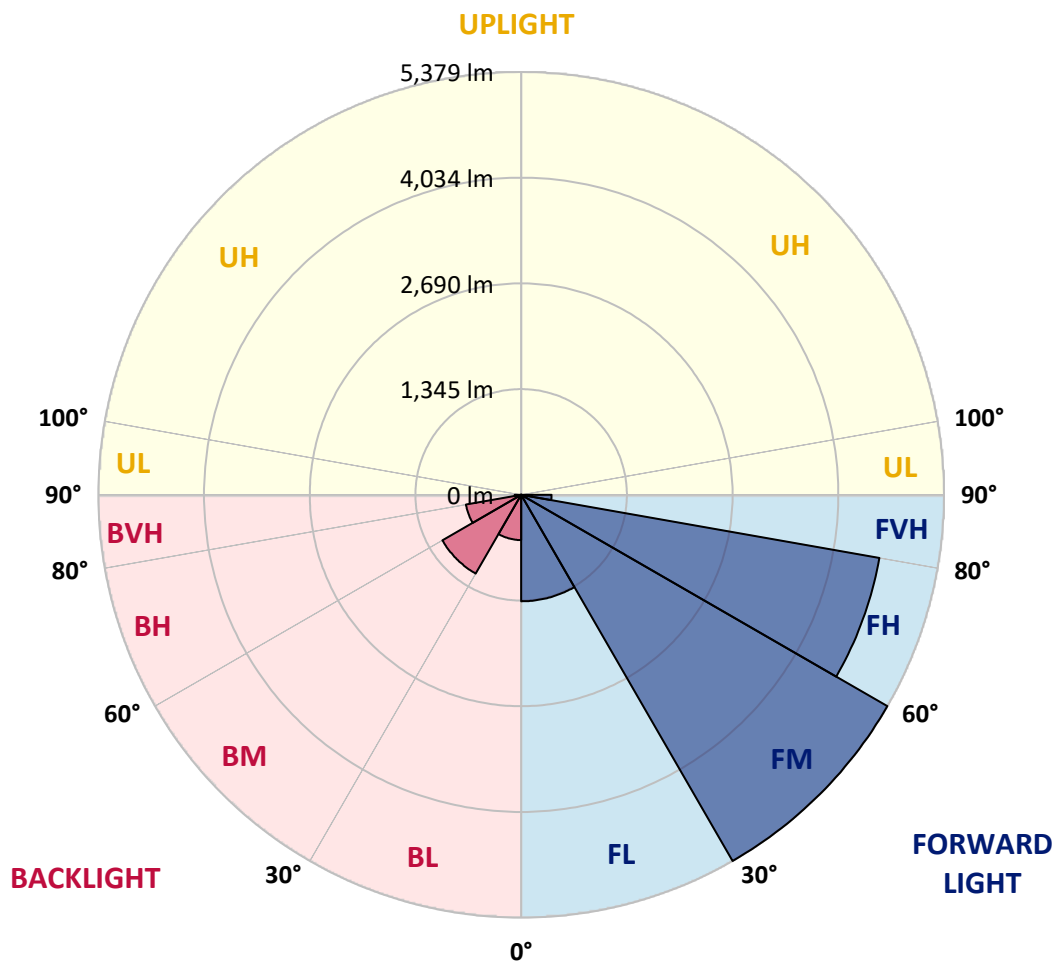
CATALOG NUMBER: NAV-AF-05-D-UNV-SLR-8030-600

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | Lumens | % Fixture | Zone Rating/Lumen Limit | | |
|----------------|--------|-----------|-------------------------|------|---------|
| | | | B | U | G |
| FL (0°-30°) | 1355.0 | 9.5 | | | |
| FM (30°-60°) | 5379.3 | 37.7 | | | |
| FH (60°-80°) | 4627.3 | 32.4 | | | G2/5000 |
| FVH (80°-90°) | 387.0 | 2.7 | | | G3/500 |
| BL (0°-30°) | 575.5 | 4.0 | B2/1000 | | |
| BM (30°-60°) | 1157.3 | 8.1 | B2/2500 | | |
| BH (60°-80°) | 713.2 | 5.0 | B2/1000 | | G2/1000 |
| BVH (80°-90°) | 83.4 | 0.6 | | | G1/100 |
| UL (90°-100°) | 0.0 | 0.0 | | U0/0 | |
| UH (100°-180°) | 0.0 | 0.0 | | U0/0 | |

BUG Rating: B2-U0-G3

Type IV Short





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CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 15° | 25° | 35° | 45° | 55° | 65° | 75° | 85° | 90° |
|-------|---------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 4867.7 | 4867.7 | 4867.7 | 4867.7 | 4867.7 | 4867.7 | 4867.7 | 4867.7 | 4867.7 | 4867.7 | 4867.7 |
| 2.5° | 5025.0 | 4954.6 | 4792.1 | 4649.2 | 4471.2 | 4337.6 | 4175.1 | 4089.2 | 4026.0 | 3983.6 | 3949.4 |
| 5° | 4693.7 | 4524.0 | 4213.4 | 3941.1 | 3647.1 | 3434.9 | 3186.4 | 3050.8 | 2967.0 | 2921.4 | 2900.7 |
| 7.5° | 4202.0 | 3977.4 | 3575.7 | 3210.3 | 2842.7 | 2577.7 | 2389.3 | 2188.5 | 2081.8 | 2012.5 | 1989.7 |
| 10° | 3772.4 | 3518.7 | 3039.4 | 2628.5 | 2344.8 | 2156.4 | 1994.9 | 1810.6 | 1674.0 | 1554.9 | 1510.4 |
| 12.5° | 3522.9 | 3227.8 | 2681.2 | 2309.6 | 2071.5 | 1869.6 | 1698.8 | 1500.0 | 1356.2 | 1231.9 | 1184.3 |
| 15° | 3470.1 | 3140.9 | 2531.1 | 2106.7 | 1814.8 | 1571.5 | 1366.5 | 1150.1 | 1009.3 | 906.9 | 873.7 |
| 17.5° | 3629.5 | 3223.7 | 2468.0 | 1921.4 | 1569.4 | 1272.3 | 1019.7 | 787.8 | 670.8 | 614.9 | 601.5 |
| 20° | 3957.7 | 3405.9 | 2438.0 | 1754.7 | 1331.3 | 979.3 | 705.0 | 535.2 | 477.2 | 460.7 | 459.6 |
| 22.5° | 4389.4 | 3702.0 | 2471.1 | 1618.1 | 1107.7 | 722.6 | 516.6 | 440.0 | 416.2 | 406.8 | 406.8 |
| 25° | 4877.0 | 4102.6 | 2559.1 | 1513.5 | 911.0 | 562.1 | 445.1 | 403.7 | 384.1 | 374.8 | 375.8 |
| 27.5° | 5473.3 | 4590.2 | 2679.2 | 1417.2 | 770.2 | 492.8 | 416.2 | 381.0 | 361.3 | 352.0 | 353.0 |
| 30° | 5922.6 | 5009.5 | 2782.7 | 1329.2 | 697.7 | 464.8 | 400.6 | 367.5 | 345.8 | 332.3 | 331.3 |
| 32.5° | 6342.9 | 5379.1 | 2866.6 | 1266.1 | 656.3 | 415.1 | 362.3 | 337.5 | 318.9 | 303.3 | 300.2 |
| 35° | 6807.7 | 5726.9 | 2905.9 | 1264.0 | 629.4 | 374.8 | 331.3 | 301.3 | 282.6 | 265.0 | 261.9 |
| 37.5° | 7334.6 | 6152.4 | 2939.0 | 1276.4 | 614.9 | 348.9 | 316.8 | 287.8 | 272.3 | 254.7 | 250.5 |
| 40° | 7883.3 | 6568.5 | 2964.9 | 1286.8 | 612.9 | 331.3 | 305.4 | 279.5 | 264.0 | 245.3 | 241.2 |
| 42.5° | 8354.3 | 6937.1 | 3000.1 | 1282.7 | 598.4 | 328.2 | 298.1 | 272.3 | 257.8 | 239.1 | 234.0 |
| 45° | 8731.1 | 7230.1 | 3055.0 | 1281.6 | 576.6 | 335.4 | 296.1 | 270.2 | 252.6 | 232.9 | 228.8 |
| 47.5° | 9082.1 | 7560.3 | 3170.9 | 1277.5 | 552.8 | 333.3 | 307.5 | 268.1 | 250.5 | 230.9 | 227.8 |
| 50° | 9483.7 | 8004.4 | 3368.6 | 1246.4 | 519.7 | 318.9 | 328.2 | 266.1 | 245.3 | 227.8 | 224.6 |
| 52.5° | 10042.8 | 8654.5 | 3661.6 | 1190.5 | 474.1 | 303.3 | 331.3 | 265.0 | 237.1 | 221.5 | 217.4 |
| 55° | 10700.1 | 9351.2 | 3977.4 | 1109.8 | 414.1 | 276.4 | 314.7 | 260.9 | 228.8 | 212.2 | 206.0 |
| 57.5° | 11208.4 | 9865.7 | 4197.9 | 993.8 | 355.1 | 260.9 | 280.5 | 251.6 | 218.4 | 201.9 | 196.7 |
| 60° | 11351.3 | 9888.5 | 4237.2 | 855.1 | 325.1 | 250.5 | 241.2 | 274.3 | 210.2 | 192.6 | 187.4 |
| 62.5° | 11180.5 | 9436.1 | 3980.5 | 757.8 | 314.7 | 240.2 | 219.5 | 261.9 | 201.9 | 184.3 | 179.1 |
| 65° | 10674.3 | 8672.1 | 3405.9 | 743.3 | 325.1 | 230.9 | 208.1 | 209.1 | 193.6 | 176.0 | 170.8 |
| 67.5° | 9492.0 | 7547.9 | 2683.3 | 752.6 | 337.5 | 221.5 | 199.8 | 190.5 | 184.3 | 168.7 | 162.5 |
| 70° | 7719.7 | 6076.8 | 2113.9 | 769.2 | 348.9 | 209.1 | 189.4 | 178.1 | 172.9 | 156.3 | 153.2 |
| 72.5° | 5946.4 | 4863.5 | 1667.8 | 757.8 | 360.3 | 196.7 | 175.0 | 165.6 | 159.4 | 143.9 | 140.8 |
| 75° | 4222.7 | 3864.5 | 1225.7 | 650.1 | 330.2 | 179.1 | 158.4 | 150.1 | 144.9 | 128.4 | 127.3 |
| 77.5° | 3043.6 | 2894.5 | 853.0 | 488.6 | 260.9 | 157.4 | 139.8 | 132.5 | 129.4 | 110.8 | 110.8 |
| 80° | 2427.6 | 2203.0 | 510.4 | 318.9 | 190.5 | 130.4 | 117.0 | 113.9 | 110.8 | 92.1 | 93.2 |
| 82.5° | 1744.4 | 1528.0 | 326.1 | 198.8 | 139.8 | 99.4 | 91.1 | 90.1 | 84.9 | 68.3 | 68.3 |
| 85° | 894.4 | 780.6 | 209.1 | 133.5 | 98.3 | 64.2 | 60.0 | 58.0 | 54.9 | 42.4 | 42.4 |
| 87.5° | 173.9 | 239.1 | 115.9 | 65.2 | 47.6 | 22.8 | 22.8 | 19.7 | 22.8 | 15.5 | 16.6 |
| 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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CANDELA DISTRIBUTION (continued):

| | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° | 185° |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 4867.7 | 4867.7 | 4867.7 | 4867.7 | 4867.7 | 4867.7 | 4867.7 | 4867.7 | 4867.7 | 4867.7 | 4867.7 |
| 2.5° | 4014.6 | 3993.9 | 3979.4 | 3972.2 | 4076.7 | 4120.2 | 4169.9 | 4241.3 | 4290.0 | 4269.3 | 4335.5 |
| 5° | 2998.0 | 3012.5 | 3045.6 | 3097.4 | 3243.4 | 3312.7 | 3357.3 | 3416.3 | 3458.7 | 3416.3 | 3486.7 |
| 7.5° | 2049.8 | 2071.5 | 2141.9 | 2248.5 | 2424.5 | 2502.2 | 2517.7 | 2518.7 | 2509.4 | 2440.0 | 2487.7 |
| 10° | 1509.4 | 1465.9 | 1481.4 | 1558.0 | 1715.4 | 1784.7 | 1792.0 | 1773.4 | 1770.2 | 1742.3 | 1796.1 |
| 12.5° | 1169.8 | 1109.8 | 1074.6 | 1087.0 | 1205.0 | 1261.9 | 1271.3 | 1281.6 | 1324.1 | 1337.5 | 1403.8 |
| 15° | 872.7 | 841.6 | 815.8 | 804.4 | 882.0 | 926.5 | 931.7 | 956.6 | 1001.1 | 1013.5 | 1070.4 |
| 17.5° | 613.9 | 622.2 | 635.6 | 640.8 | 696.7 | 725.7 | 717.4 | 717.4 | 724.7 | 721.6 | 753.6 |
| 20° | 469.0 | 485.5 | 511.4 | 536.2 | 587.0 | 603.5 | 582.8 | 557.0 | 540.4 | 532.1 | 539.4 |
| 22.5° | 414.1 | 425.5 | 442.0 | 474.1 | 516.6 | 524.9 | 497.9 | 477.2 | 461.7 | 453.4 | 454.5 |
| 25° | 384.1 | 395.5 | 408.9 | 434.8 | 471.0 | 475.2 | 450.3 | 436.9 | 424.4 | 416.2 | 414.1 |
| 27.5° | 358.2 | 365.4 | 373.7 | 390.3 | 427.6 | 429.6 | 413.1 | 404.8 | 396.5 | 390.3 | 388.2 |
| 30° | 334.4 | 337.5 | 340.6 | 357.2 | 385.1 | 388.2 | 379.9 | 375.8 | 372.7 | 368.5 | 368.5 |
| 32.5° | 303.3 | 307.5 | 312.6 | 327.1 | 354.0 | 358.2 | 353.0 | 349.9 | 344.7 | 342.7 | 339.6 |
| 35° | 266.1 | 276.4 | 287.8 | 305.4 | 334.4 | 336.4 | 330.2 | 320.9 | 308.5 | 305.4 | 303.3 |
| 37.5° | 250.5 | 252.6 | 267.1 | 287.8 | 317.8 | 319.9 | 311.6 | 296.1 | 286.8 | 287.8 | 289.9 |
| 40° | 240.2 | 243.3 | 251.6 | 272.3 | 302.3 | 305.4 | 298.1 | 286.8 | 277.4 | 278.5 | 281.6 |
| 42.5° | 231.9 | 236.0 | 241.2 | 254.7 | 284.7 | 290.9 | 288.8 | 278.5 | 269.2 | 271.2 | 275.4 |
| 45° | 227.8 | 230.9 | 230.9 | 240.2 | 269.2 | 278.5 | 279.5 | 271.2 | 264.0 | 266.1 | 271.2 |
| 47.5° | 225.7 | 225.7 | 222.6 | 229.8 | 258.8 | 268.1 | 270.2 | 266.1 | 261.9 | 264.0 | 269.2 |
| 50° | 222.6 | 218.4 | 215.3 | 221.5 | 250.5 | 258.8 | 260.9 | 257.8 | 259.8 | 264.0 | 267.1 |
| 52.5° | 213.3 | 209.1 | 209.1 | 213.3 | 242.2 | 250.5 | 251.6 | 249.5 | 253.6 | 258.8 | 264.0 |
| 55° | 201.9 | 201.9 | 202.9 | 207.0 | 238.1 | 244.3 | 243.3 | 241.2 | 245.3 | 251.6 | 256.7 |
| 57.5° | 191.5 | 190.5 | 195.7 | 200.8 | 232.9 | 237.1 | 235.0 | 235.0 | 238.1 | 243.3 | 248.5 |
| 60° | 185.3 | 180.1 | 184.3 | 192.6 | 227.8 | 231.9 | 228.8 | 227.8 | 232.9 | 237.1 | 241.2 |
| 62.5° | 179.1 | 173.9 | 177.0 | 185.3 | 220.5 | 223.6 | 221.5 | 221.5 | 226.7 | 229.8 | 234.0 |
| 65° | 169.8 | 167.7 | 169.8 | 178.1 | 214.3 | 215.3 | 215.3 | 216.4 | 220.5 | 222.6 | 226.7 |
| 67.5° | 161.5 | 161.5 | 162.5 | 170.8 | 209.1 | 207.0 | 207.0 | 212.2 | 213.3 | 215.3 | 219.5 |
| 70° | 151.1 | 153.2 | 153.2 | 163.6 | 205.0 | 197.7 | 198.8 | 202.9 | 205.0 | 207.0 | 208.1 |
| 72.5° | 139.8 | 140.8 | 142.9 | 156.3 | 198.8 | 188.4 | 189.4 | 192.6 | 193.6 | 196.7 | 197.7 |
| 75° | 127.3 | 128.4 | 131.5 | 149.1 | 194.6 | 179.1 | 177.0 | 179.1 | 181.2 | 183.2 | 182.2 |
| 77.5° | 112.8 | 114.9 | 118.0 | 144.9 | 181.2 | 177.0 | 161.5 | 163.6 | 165.6 | 165.6 | 164.6 |
| 80° | 95.2 | 98.3 | 103.5 | 138.7 | 153.2 | 170.8 | 143.9 | 144.9 | 146.0 | 146.0 | 143.9 |
| 82.5° | 71.4 | 77.6 | 84.9 | 114.9 | 120.1 | 146.0 | 124.2 | 126.3 | 123.2 | 121.1 | 120.1 |
| 85° | 46.6 | 51.8 | 62.1 | 79.7 | 88.0 | 114.9 | 102.5 | 103.5 | 97.3 | 96.3 | 96.3 |
| 87.5° | 18.6 | 19.7 | 28.0 | 40.4 | 52.8 | 71.4 | 73.5 | 75.6 | 70.4 | 70.4 | 72.5 |
| 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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CANDELA DISTRIBUTION (continued):

| | 195° | 205° | 215° | 225° | 235° | 245° | 255° | 265° | 270° | 275° | 285° |
|-------|--------|--------|--------|--------|--------|--------|--------|---------|---------|---------|---------|
| 0° | 4867.7 | 4867.7 | 4867.7 | 4867.7 | 4867.7 | 4867.7 | 4867.7 | 4867.7 | 4867.7 | 4867.7 | 4867.7 |
| 2.5° | 4436.0 | 4539.5 | 4658.5 | 4779.7 | 4879.0 | 5007.4 | 5131.6 | 5264.1 | 5331.4 | 5370.8 | 5481.5 |
| 5° | 3596.4 | 3738.2 | 3907.0 | 4096.4 | 4253.8 | 4522.9 | 4812.8 | 5135.8 | 5291.1 | 5444.3 | 5734.1 |
| 7.5° | 2572.5 | 2711.3 | 2908.0 | 3153.3 | 3376.9 | 3732.0 | 4114.0 | 4550.9 | 4766.2 | 5014.7 | 5489.8 |
| 10° | 1910.0 | 2057.0 | 2235.1 | 2443.1 | 2663.6 | 3033.2 | 3461.8 | 3952.5 | 4189.6 | 4470.1 | 5010.5 |
| 12.5° | 1548.7 | 1720.6 | 1904.8 | 2091.2 | 2280.6 | 2529.1 | 2978.4 | 3523.9 | 3778.6 | 4061.2 | 4602.6 |
| 15° | 1208.1 | 1392.4 | 1591.1 | 1794.1 | 1982.5 | 2259.9 | 2718.5 | 3363.5 | 3654.4 | 3927.7 | 4370.7 |
| 17.5° | 855.1 | 1029.0 | 1252.6 | 1499.0 | 1772.3 | 2100.5 | 2662.6 | 3433.9 | 3786.9 | 4072.6 | 4369.7 |
| 20° | 582.8 | 702.9 | 926.5 | 1218.5 | 1556.0 | 1972.1 | 2683.3 | 3681.3 | 4122.3 | 4436.0 | 4548.8 |
| 22.5° | 465.9 | 522.8 | 673.9 | 971.0 | 1369.6 | 1878.9 | 2768.2 | 4020.8 | 4603.7 | 4985.7 | 4874.9 |
| 25° | 423.4 | 455.5 | 534.2 | 767.1 | 1204.0 | 1816.8 | 2933.8 | 4469.1 | 5143.0 | 5530.2 | 5267.3 |
| 27.5° | 397.5 | 425.5 | 476.2 | 630.5 | 1061.1 | 1776.5 | 3144.0 | 4997.1 | 5750.7 | 6068.5 | 5676.2 |
| 30° | 381.0 | 408.9 | 455.5 | 566.3 | 953.4 | 1716.4 | 3328.3 | 5479.5 | 6236.2 | 6442.2 | 5896.7 |
| 32.5° | 348.9 | 370.6 | 408.9 | 507.3 | 872.7 | 1646.0 | 3487.7 | 5911.2 | 6694.8 | 6763.2 | 6161.7 |
| 35° | 315.7 | 338.5 | 376.8 | 459.6 | 825.1 | 1591.1 | 3571.5 | 6294.2 | 7149.3 | 7084.1 | 6424.6 |
| 37.5° | 303.3 | 322.0 | 357.2 | 425.5 | 799.2 | 1554.9 | 3603.6 | 6671.0 | 7636.9 | 7439.2 | 6607.9 |
| 40° | 295.0 | 311.6 | 342.7 | 402.7 | 792.0 | 1520.8 | 3596.4 | 7029.2 | 8110.0 | 7806.7 | 6751.8 |
| 42.5° | 288.8 | 303.3 | 332.3 | 387.2 | 772.3 | 1488.7 | 3572.6 | 7338.8 | 8488.9 | 8123.5 | 6889.5 |
| 45° | 283.7 | 299.2 | 328.2 | 395.5 | 736.0 | 1453.5 | 3558.1 | 7621.4 | 8779.8 | 8390.5 | 7073.7 |
| 47.5° | 281.6 | 299.2 | 329.2 | 393.4 | 696.7 | 1414.1 | 3609.8 | 7935.0 | 9033.4 | 8615.2 | 7319.1 |
| 50° | 278.5 | 298.1 | 352.0 | 374.8 | 642.9 | 1365.5 | 3784.8 | 8308.8 | 9299.5 | 8867.8 | 7636.9 |
| 52.5° | 273.3 | 297.1 | 375.8 | 360.3 | 573.5 | 1298.2 | 4068.5 | 8836.7 | 9759.1 | 9359.5 | 8106.9 |
| 55° | 267.1 | 299.2 | 359.2 | 337.5 | 500.0 | 1211.2 | 4352.1 | 9560.4 | 10504.5 | 10152.5 | 8781.9 |
| 57.5° | 259.8 | 296.1 | 339.6 | 316.8 | 438.9 | 1101.5 | 4567.4 | 10153.5 | 11119.4 | 10970.3 | 9611.1 |
| 60° | 254.7 | 303.3 | 305.4 | 304.4 | 399.6 | 996.9 | 4588.1 | 10115.2 | 11296.4 | 11501.4 | 10422.7 |
| 62.5° | 248.5 | 309.5 | 278.5 | 295.0 | 379.9 | 899.6 | 4332.4 | 9488.9 | 10997.3 | 11433.1 | 11084.2 |
| 65° | 240.2 | 270.2 | 264.0 | 286.8 | 379.9 | 847.9 | 3737.2 | 8446.4 | 10170.1 | 10787.1 | 11443.4 |
| 67.5° | 231.9 | 245.3 | 253.6 | 275.4 | 388.2 | 799.2 | 3003.2 | 7124.5 | 8865.7 | 9744.6 | 11039.7 |
| 70° | 220.5 | 231.9 | 242.2 | 265.0 | 384.1 | 765.0 | 2363.4 | 5710.3 | 7296.3 | 8302.5 | 9922.7 |
| 72.5° | 210.2 | 218.4 | 228.8 | 249.5 | 384.1 | 749.5 | 1898.6 | 4479.4 | 5570.6 | 6418.4 | 8219.7 |
| 75° | 194.6 | 201.9 | 211.2 | 234.0 | 376.8 | 685.3 | 1425.5 | 3589.1 | 4075.7 | 4606.8 | 6485.7 |
| 77.5° | 179.1 | 184.3 | 191.5 | 214.3 | 339.6 | 572.5 | 1008.3 | 2779.6 | 3019.8 | 3313.8 | 5056.1 |
| 80° | 159.4 | 163.6 | 168.7 | 191.5 | 281.6 | 444.1 | 656.3 | 2174.0 | 2257.8 | 2399.7 | 3326.2 |
| 82.5° | 136.7 | 142.9 | 143.9 | 164.6 | 226.7 | 322.0 | 390.3 | 1489.7 | 1488.7 | 1696.7 | 2346.9 |
| 85° | 111.8 | 114.9 | 117.0 | 129.4 | 167.7 | 214.3 | 256.7 | 813.7 | 725.7 | 1016.6 | 2038.4 |
| 87.5° | 83.9 | 80.7 | 83.9 | 87.0 | 110.8 | 126.3 | 137.7 | 150.1 | 90.1 | 184.3 | 1185.3 |
| 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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| 0° | 4867.7 | 4867.7 | 4867.7 | 4867.7 | 4867.7 | 4867.7 | 4867.7 | 4867.7 |
| 2.5° | 5540.6 | 5601.6 | 5565.4 | 5521.9 | 5413.2 | 5253.8 | 5131.6 | 5025.0 |
| 5° | 5935.0 | 6047.8 | 5998.1 | 5836.6 | 5555.0 | 5235.2 | 4898.7 | 4693.7 |
| 7.5° | 5885.3 | 6108.9 | 6089.2 | 5820.1 | 5416.3 | 4945.3 | 4472.2 | 4202.0 |
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| 15° | 4692.7 | 4826.2 | 4934.9 | 5002.2 | 4752.7 | 4301.4 | 3784.8 | 3470.1 |
| 17.5° | 4424.6 | 4398.7 | 4489.8 | 4651.3 | 4661.6 | 4414.2 | 3981.5 | 3629.5 |
| 20° | 4295.2 | 4092.3 | 4145.1 | 4371.8 | 4636.8 | 4701.0 | 4373.8 | 3957.7 |
| 22.5° | 4287.9 | 3971.1 | 3981.5 | 4225.8 | 4708.2 | 5092.3 | 4863.5 | 4389.4 |
| 25° | 4399.7 | 3957.7 | 3967.0 | 4210.3 | 4834.5 | 5486.7 | 5429.8 | 4877.0 |
| 27.5° | 4590.2 | 4015.7 | 4009.4 | 4278.6 | 5003.3 | 5815.9 | 6001.2 | 5473.3 |
| 30° | 4796.2 | 4099.5 | 4084.0 | 4388.3 | 5168.9 | 6018.8 | 6407.0 | 5922.6 |
| 32.5° | 5053.0 | 4248.6 | 4194.8 | 4548.8 | 5332.5 | 6213.5 | 6753.8 | 6342.9 |
| 35° | 5297.3 | 4467.0 | 4389.4 | 4778.6 | 5507.4 | 6429.8 | 7142.1 | 6807.7 |
| 37.5° | 5546.8 | 4793.1 | 4749.6 | 5109.9 | 5754.8 | 6664.8 | 7586.2 | 7334.6 |
| 40° | 5866.7 | 5256.9 | 5236.2 | 5591.3 | 6085.1 | 6921.6 | 8084.1 | 7883.3 |
| 42.5° | 6211.4 | 5749.7 | 5732.1 | 6144.1 | 6495.0 | 7179.3 | 8510.6 | 8354.3 |
| 45° | 6562.3 | 6347.0 | 6351.1 | 6734.2 | 6926.7 | 7422.6 | 8846.0 | 8731.1 |
| 47.5° | 6976.4 | 7000.2 | 7148.3 | 7346.0 | 7347.0 | 7693.8 | 9143.2 | 9082.1 |
| 50° | 7502.3 | 7789.1 | 8062.4 | 8093.4 | 7771.5 | 8052.0 | 9506.5 | 9483.7 |
| 52.5° | 8097.6 | 8699.0 | 9016.9 | 8918.5 | 8185.6 | 8496.1 | 10043.8 | 10042.8 |
| 55° | 8804.6 | 9650.4 | 9949.6 | 9781.9 | 8681.4 | 9074.8 | 10745.7 | 10700.1 |
| 57.5° | 9537.6 | 10565.6 | 10806.8 | 10588.3 | 9301.5 | 9748.8 | 11449.7 | 11208.4 |
| 60° | 10329.5 | 11353.4 | 11598.7 | 11270.6 | 9997.2 | 10420.6 | 11915.5 | 11351.3 |
| 62.5° | 10848.2 | 11814.1 | 11990.0 | 11675.3 | 10620.4 | 11104.9 | 12065.6 | 11180.5 |
| 65° | 10875.1 | 11507.6 | 11554.2 | 11442.4 | 10885.5 | 11699.1 | 11848.2 | 10674.3 |
| 67.5° | 10135.9 | 10173.2 | 10234.3 | 10354.4 | 10319.2 | 11434.1 | 11009.7 | 9492.0 |
| 70° | 8555.1 | 8058.2 | 8259.1 | 8375.0 | 8635.9 | 10170.1 | 9459.9 | 7719.7 |
| 72.5° | 6541.6 | 5815.9 | 6043.7 | 6004.3 | 6546.8 | 8341.9 | 7237.3 | 5946.4 |
| 75° | 4708.2 | 3966.0 | 3983.6 | 3985.6 | 4704.1 | 6658.6 | 4934.9 | 4222.7 |
| 77.5° | 3199.9 | 2806.5 | 2864.5 | 2828.3 | 3148.1 | 5216.5 | 3552.9 | 3043.6 |
| 80° | 2188.5 | 2178.1 | 2190.5 | 2105.7 | 2099.4 | 3371.7 | 2630.5 | 2427.6 |
| 82.5° | 1623.2 | 1500.0 | 1482.5 | 1392.4 | 1608.7 | 2577.7 | 1997.0 | 1744.4 |
| 85° | 1280.6 | 830.3 | 721.6 | 870.6 | 1393.4 | 2371.7 | 1217.4 | 894.4 |
| 87.5° | 542.5 | 326.1 | 197.7 | 391.3 | 774.4 | 1738.2 | 337.5 | 173.9 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

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