

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: P884490

Luminaire Tested: **NAV-SB5B-827-U-T4FT-HSS**

Issue Date: 10/7/2024

Test Information

Test Method: LM-79-08
Report Number: P884490
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2405-108-25)
Test Lab: INNOVATION CENTER
Issue Date: 10/7/2024
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: LUMARK
Catalog Number: NAV-SB5B-827-U-T4FT-HSS
Description: NAVION ROADWAY AND AREA HIGH DENSITY LED LUMINAIRE
(5) 80 CRI, 2700K, 450mA LIGHTSQUARES WITH 26 LEDS EACH AND TYPE IV
FORWARD THROW OPTICS WITH HOUSE SIDE SHIELD
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 17578 lumens
Efficiency: N/A
Efficacy: 96.2 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1.5' x H: 0')
IES Classification: Type IV - Short
BUG Rating: B2 - U0 - G4

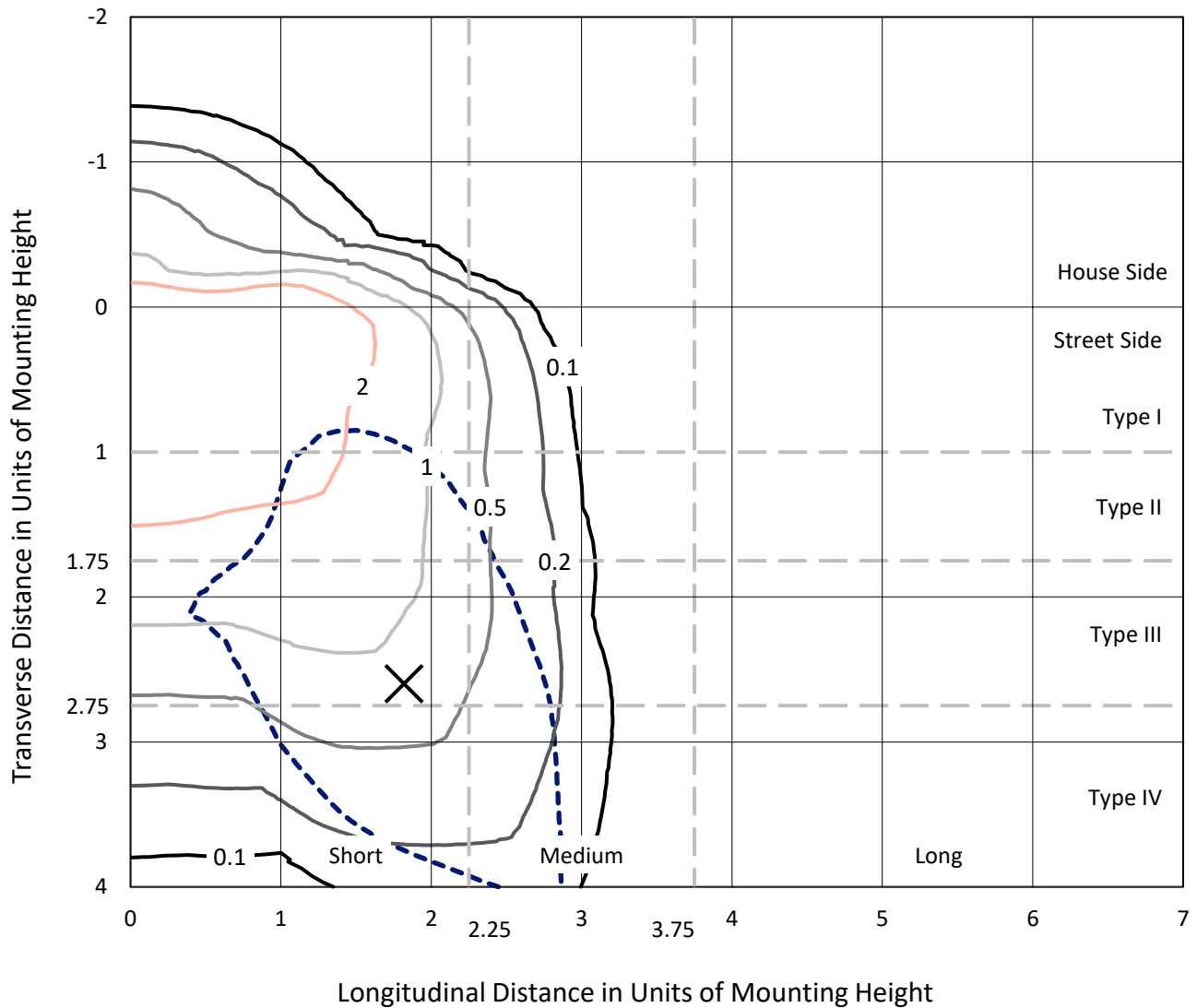
Input Watts (W): 182.7
Input Voltage (V): 120.0
Input Current (Ain): 1.547
Voltage Rise (V): NR
Power Factor: 0.992
Total Harmonic Distortion (THDi): 11.125
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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Iso-Footcandle Lines of Horizontal Illumination

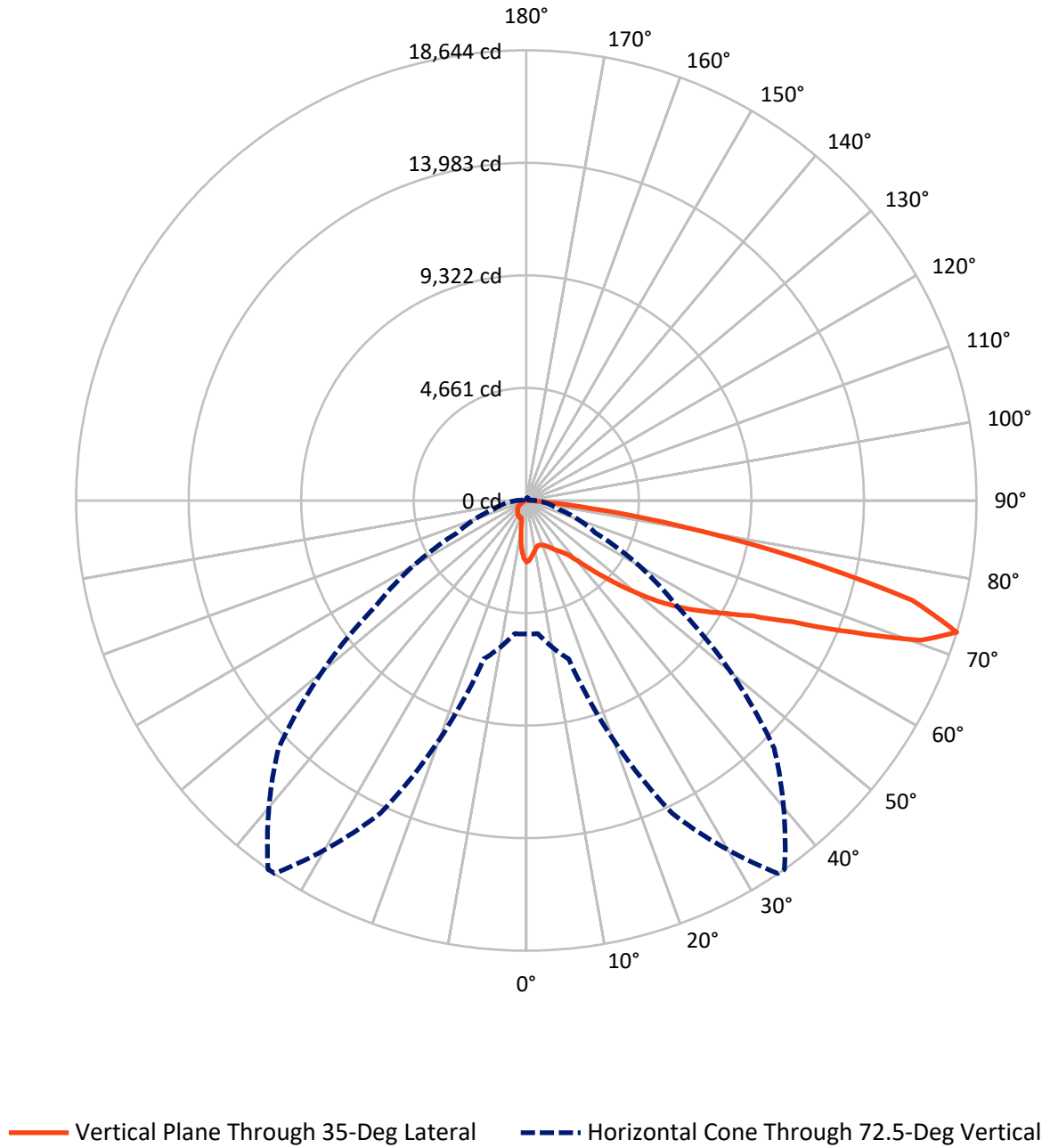
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 4.1 fc
 Type IV - Short - N/A

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Luminous Intensity Polar Plot



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FLUX DISTRIBUTION:

| | | Downward | Upward | Total |
|--------------------|-----------|----------|--------|---------|
| House Side | Lumens | 1978.3 | 0.0 | 1978.3 |
| | % Fixture | 11.3 | 0.0 | 11.3 |
| Street Side | Lumens | 15599.7 | 0.0 | 15599.7 |
| | % Fixture | 88.7 | 0.0 | 88.7 |
| Total | Lumens | 17578.0 | 0.0 | 17578.0 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|---------|-----------|
| 0°-10° | 209.3 | 1.2 |
| 10°-20° | 489.7 | 2.8 |
| 20°-30° | 795.6 | 4.5 |
| 30°-40° | 1327.4 | 7.6 |
| 40°-50° | 2511.5 | 14.3 |
| 50°-60° | 3990.8 | 22.7 |
| 60°-70° | 4936.9 | 28.1 |
| 70°-80° | 3068.8 | 17.5 |
| 80°-90° | 248.0 | 1.4 |
| 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° | 17578.0 | 100.0 |
| 0°-180° | 17578.0 | 100.0 |

Coefficient of Utilization



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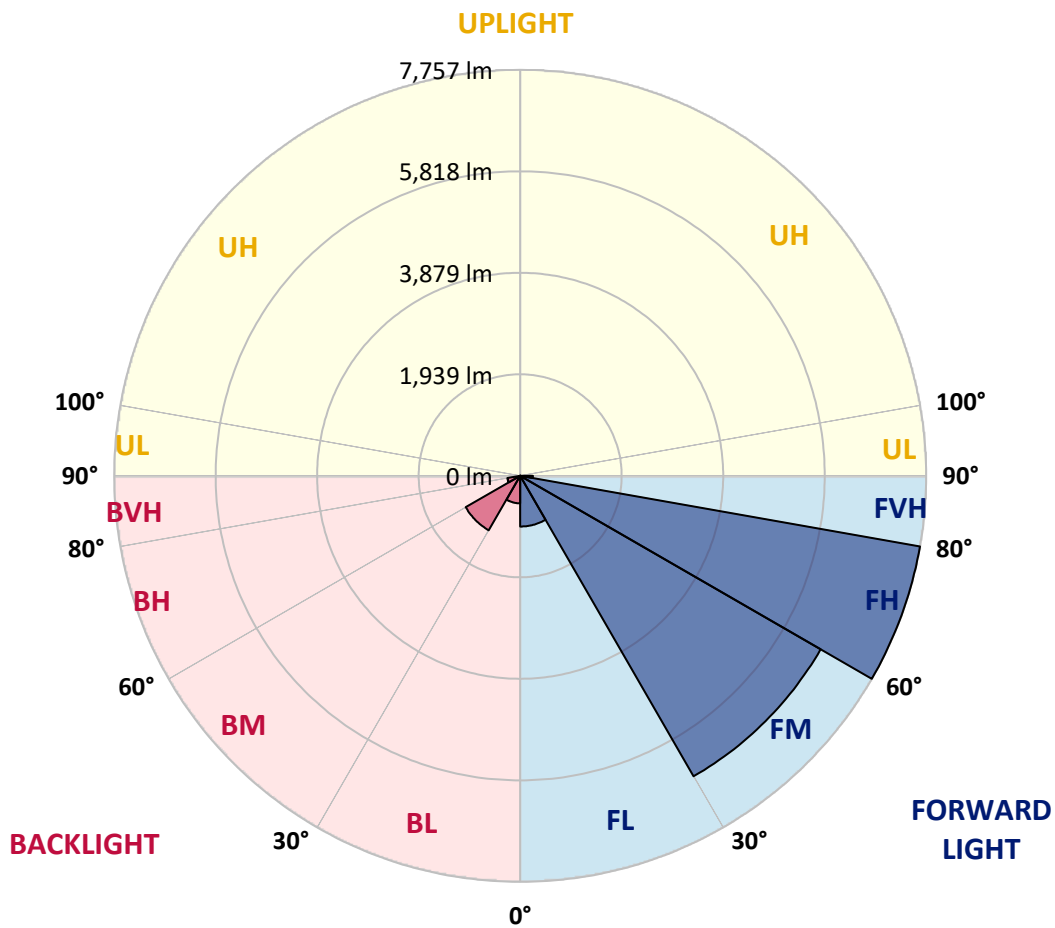
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | Lumens | % Fixture | Zone Rating/Lumen Limit | | |
|----------------|--------|-----------|-------------------------|------|----------|
| | | | B | U | G |
| FL (0°-30°) | 969.0 | 5.5 | | | |
| FM (30°-60°) | 6628.7 | 37.7 | | | |
| FH (60°-80°) | 7757.4 | 44.1 | | | G4/12000 |
| FVH (80°-90°) | 244.6 | 1.4 | | | G3/500 |
| BL (0°-30°) | 525.7 | 3.0 | B2/1000 | | |
| BM (30°-60°) | 1201.0 | 6.8 | B2/2500 | | |
| BH (60°-80°) | 248.3 | 1.4 | B1/500 | | G1/500 |
| BVH (80°-90°) | 3.4 | 0.0 | | | G0/10 |
| UL (90°-100°) | 0.0 | 0.0 | | U0/0 | |
| UH (100°-180°) | 0.0 | 0.0 | | U0/0 | |

BUG Rating: B2-U0-G4

Type IV Short



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CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 15° | 25° | 34° | 35° | 45° | 55° | 65° | 75° | 85° |
|-------|--------|--------|--------|---------|---------|---------|---------|---------|--------|--------|--------|
| 0° | 2547.6 | 2547.6 | 2547.6 | 2547.6 | 2547.6 | 2547.6 | 2547.6 | 2547.6 | 2547.6 | 2547.6 | 2547.6 |
| 2.5° | 2434.3 | 2454.9 | 2458.8 | 2465.2 | 2465.2 | 2472.9 | 2485.8 | 2503.8 | 2533.5 | 2548.9 | 2559.2 |
| 5° | 2243.7 | 2259.1 | 2278.5 | 2293.9 | 2323.5 | 2327.4 | 2377.6 | 2426.6 | 2494.8 | 2546.4 | 2582.4 |
| 7.5° | 2051.8 | 2069.8 | 2095.6 | 2132.9 | 2171.5 | 2183.1 | 2259.1 | 2341.6 | 2449.8 | 2546.4 | 2606.9 |
| 10° | 1916.5 | 1917.8 | 1941.0 | 1978.4 | 2040.2 | 2054.3 | 2147.1 | 2264.3 | 2399.5 | 2530.9 | 2630.1 |
| 12.5° | 1840.5 | 1849.6 | 1859.9 | 1888.2 | 1947.4 | 1956.5 | 2055.6 | 2193.4 | 2349.3 | 2521.9 | 2657.1 |
| 15° | 1840.5 | 1847.0 | 1853.4 | 1867.6 | 1915.2 | 1923.0 | 2010.6 | 2148.4 | 2323.5 | 2525.7 | 2700.9 |
| 17.5° | 1859.9 | 1870.2 | 1865.0 | 1881.8 | 1932.0 | 1937.1 | 2014.4 | 2135.5 | 2322.2 | 2550.2 | 2767.9 |
| 20° | 1906.2 | 1914.0 | 1903.6 | 1914.0 | 1964.2 | 1974.5 | 2054.3 | 2160.0 | 2344.1 | 2592.7 | 2851.6 |
| 22.5° | 1979.6 | 1983.5 | 1959.0 | 1966.8 | 2018.3 | 2031.2 | 2123.9 | 2229.5 | 2396.9 | 2661.0 | 2963.7 |
| 25° | 2072.4 | 2080.1 | 2042.8 | 2051.8 | 2100.7 | 2116.2 | 2223.1 | 2333.8 | 2480.7 | 2755.0 | 3106.6 |
| 27.5° | 2179.3 | 2183.1 | 2150.9 | 2149.7 | 2212.8 | 2234.7 | 2342.9 | 2462.6 | 2592.7 | 2873.5 | 3286.9 |
| 30° | 2301.6 | 2313.2 | 2282.3 | 2277.2 | 2357.0 | 2375.1 | 2482.0 | 2621.1 | 2757.6 | 3051.2 | 3543.3 |
| 32.5° | 2398.2 | 2407.3 | 2389.2 | 2402.1 | 2483.2 | 2497.4 | 2650.7 | 2845.2 | 3016.5 | 3303.7 | 3892.3 |
| 35° | 2537.3 | 2542.5 | 2501.3 | 2524.5 | 2617.2 | 2653.3 | 2881.2 | 3159.4 | 3342.3 | 3620.5 | 4348.2 |
| 37.5° | 3040.9 | 3040.9 | 2865.8 | 2751.1 | 2840.0 | 2872.2 | 3196.8 | 3554.8 | 3744.2 | 4045.6 | 4922.7 |
| 40° | 3737.7 | 3726.2 | 3469.8 | 3235.4 | 3223.8 | 3286.9 | 3646.3 | 4053.3 | 4263.2 | 4555.6 | 5569.3 |
| 42.5° | 4480.9 | 4462.9 | 4113.8 | 3882.0 | 3843.4 | 3865.3 | 4165.4 | 4667.7 | 4881.5 | 5177.7 | 6264.8 |
| 45° | 5140.4 | 5135.2 | 4815.8 | 4504.1 | 4434.5 | 4504.1 | 4813.2 | 5386.4 | 5539.6 | 5851.3 | 6959.0 |
| 47.5° | 5692.9 | 5692.9 | 5459.8 | 5256.3 | 5220.2 | 5261.4 | 5690.3 | 6183.6 | 6169.5 | 6568.7 | 7635.2 |
| 50° | 6329.2 | 6324.0 | 6102.5 | 6014.9 | 6052.3 | 6110.2 | 6700.1 | 7023.4 | 6821.2 | 7273.3 | 8239.3 |
| 52.5° | 6774.8 | 6805.7 | 6729.7 | 6715.6 | 6906.2 | 7006.7 | 7725.4 | 7845.1 | 7404.6 | 7941.7 | 8691.3 |
| 55° | 7127.7 | 7163.8 | 7251.4 | 7350.6 | 7717.6 | 7849.0 | 8718.4 | 8624.4 | 7892.8 | 8521.3 | 8951.5 |
| 57.5° | 7627.5 | 7575.9 | 7711.2 | 7907.0 | 8500.7 | 8659.1 | 9680.5 | 9359.8 | 8285.6 | 8991.4 | 8979.9 |
| 60° | 8234.1 | 8241.8 | 8265.0 | 8512.3 | 9282.5 | 9486.0 | 10628.5 | 10055.3 | 8538.1 | 9280.0 | 8665.6 |
| 62.5° | 8963.1 | 8974.7 | 9022.4 | 9402.3 | 10332.2 | 10524.2 | 11638.3 | 10624.6 | 8654.0 | 9198.8 | 7854.2 |
| 65° | 8912.9 | 8961.8 | 9493.8 | 10793.3 | 11928.1 | 12117.4 | 12816.8 | 11023.9 | 8478.8 | 8456.9 | 6394.9 |
| 67.5° | 8119.5 | 8199.3 | 9089.3 | 12454.9 | 14334.0 | 14545.3 | 14241.3 | 11102.5 | 7722.8 | 6576.5 | 4171.8 |
| 70° | 7078.8 | 7107.1 | 8177.4 | 13948.9 | 17119.9 | 17333.8 | 15516.4 | 10238.2 | 5860.3 | 3668.2 | 1868.9 |
| 72.5° | 5528.0 | 5534.5 | 6790.3 | 14295.4 | 18632.0 | 18643.6 | 14515.6 | 7600.4 | 3151.7 | 1409.1 | 649.1 |
| 75° | 3949.0 | 3910.3 | 4547.9 | 11593.2 | 16392.2 | 16523.6 | 10882.2 | 3565.2 | 1204.3 | 665.9 | 323.3 |
| 77.5° | 2117.5 | 2160.0 | 2573.4 | 6875.3 | 11324.0 | 11548.1 | 5937.6 | 1027.8 | 613.1 | 453.4 | 213.8 |
| 80° | 654.3 | 690.4 | 1054.9 | 3147.8 | 6414.2 | 6549.4 | 2201.2 | 457.2 | 427.6 | 323.3 | 140.4 |
| 82.5° | 206.1 | 213.8 | 492.0 | 1322.8 | 2662.3 | 2724.1 | 637.6 | 258.9 | 292.4 | 213.8 | 82.4 |
| 85° | 59.2 | 60.5 | 219.0 | 493.3 | 658.2 | 671.0 | 179.0 | 100.5 | 167.4 | 132.7 | 42.5 |
| 87.5° | 6.4 | 20.6 | 82.4 | 82.4 | 58.0 | 56.7 | 19.3 | 21.9 | 47.7 | 16.7 | 7.7 |
| 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):

| | 90° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 2547.6 | 2547.6 | 2547.6 | 2547.6 | 2547.6 | 2547.6 | 2547.6 | 2547.6 | 2547.6 | 2547.6 | 2547.6 |
| 2.5° | 2552.8 | 2554.1 | 2537.3 | 2509.0 | 2478.1 | 2452.3 | 2420.1 | 2394.4 | 2376.3 | 2371.2 | 2380.2 |
| 5° | 2570.8 | 2561.8 | 2514.2 | 2427.9 | 2324.8 | 2235.9 | 2136.8 | 2058.2 | 2006.7 | 1984.8 | 1992.5 |
| 7.5° | 2597.9 | 2572.1 | 2467.8 | 2297.8 | 2100.7 | 1925.5 | 1747.8 | 1610.0 | 1522.4 | 1478.6 | 1485.1 |
| 10° | 2621.1 | 2569.5 | 2390.5 | 2109.7 | 1808.3 | 1543.0 | 1303.4 | 1137.3 | 1044.6 | 1000.8 | 1002.1 |
| 12.5° | 2643.0 | 2568.2 | 2290.0 | 1886.9 | 1478.6 | 1154.0 | 931.2 | 848.8 | 823.0 | 814.0 | 811.4 |
| 15° | 2684.2 | 2572.1 | 2163.8 | 1631.9 | 1150.2 | 872.0 | 790.8 | 789.5 | 794.7 | 792.1 | 790.8 |
| 17.5° | 2740.8 | 2576.0 | 2020.9 | 1361.4 | 887.4 | 768.9 | 765.1 | 776.7 | 784.4 | 780.5 | 779.2 |
| 20° | 2814.3 | 2591.4 | 1868.9 | 1093.5 | 762.5 | 743.2 | 752.2 | 762.5 | 768.9 | 762.5 | 761.2 |
| 22.5° | 2917.3 | 2618.5 | 1702.7 | 878.4 | 722.6 | 727.7 | 735.4 | 747.0 | 753.5 | 744.5 | 743.2 |
| 25° | 3043.5 | 2661.0 | 1539.1 | 763.8 | 703.2 | 709.7 | 721.3 | 734.2 | 741.9 | 732.9 | 731.6 |
| 27.5° | 3207.1 | 2729.2 | 1388.5 | 738.0 | 683.9 | 687.8 | 704.5 | 723.8 | 734.2 | 722.6 | 722.6 |
| 30° | 3444.1 | 2841.3 | 1258.4 | 749.6 | 672.3 | 663.3 | 686.5 | 713.5 | 725.1 | 714.8 | 713.5 |
| 32.5° | 3758.4 | 2999.7 | 1178.5 | 767.6 | 667.2 | 635.0 | 656.9 | 691.6 | 711.0 | 704.5 | 704.5 |
| 35° | 4170.5 | 3240.6 | 1147.6 | 788.2 | 663.3 | 605.4 | 620.8 | 658.2 | 691.6 | 698.1 | 698.1 |
| 37.5° | 4670.2 | 3575.5 | 1156.6 | 797.3 | 651.7 | 580.9 | 588.6 | 620.8 | 664.6 | 685.2 | 690.4 |
| 40° | 5238.2 | 3965.7 | 1208.1 | 788.2 | 638.8 | 560.3 | 561.6 | 586.0 | 624.7 | 655.6 | 665.9 |
| 42.5° | 5824.3 | 4421.7 | 1303.4 | 754.8 | 627.3 | 542.2 | 538.4 | 555.1 | 580.9 | 602.8 | 611.8 |
| 45° | 6382.0 | 4890.5 | 1397.5 | 708.4 | 613.1 | 524.2 | 515.2 | 521.6 | 526.8 | 535.8 | 541.0 |
| 47.5° | 6868.8 | 5220.2 | 1370.4 | 665.9 | 593.8 | 503.6 | 488.1 | 485.6 | 470.1 | 468.8 | 467.5 |
| 50° | 7205.0 | 5292.3 | 1217.1 | 623.4 | 565.4 | 480.4 | 455.9 | 440.5 | 413.4 | 400.6 | 401.9 |
| 52.5° | 7311.9 | 5007.7 | 994.3 | 580.9 | 519.1 | 449.5 | 414.7 | 390.3 | 356.8 | 345.2 | 343.9 |
| 55° | 7170.2 | 4450.0 | 794.7 | 529.4 | 454.7 | 408.3 | 369.7 | 337.5 | 310.4 | 296.2 | 296.2 |
| 57.5° | 6823.8 | 3740.3 | 628.5 | 468.8 | 386.4 | 361.9 | 323.3 | 291.1 | 267.9 | 253.7 | 251.2 |
| 60° | 6249.3 | 2970.1 | 497.2 | 396.7 | 329.7 | 311.7 | 271.8 | 251.2 | 230.5 | 213.8 | 209.9 |
| 62.5° | 5377.4 | 2120.0 | 390.3 | 314.3 | 275.6 | 255.0 | 231.8 | 216.4 | 191.9 | 168.7 | 164.9 |
| 65° | 4196.3 | 1297.0 | 301.4 | 230.5 | 221.5 | 211.2 | 197.1 | 182.9 | 153.3 | 130.1 | 126.2 |
| 67.5° | 2646.8 | 614.4 | 215.1 | 173.9 | 175.2 | 170.0 | 163.6 | 152.0 | 130.1 | 109.5 | 106.9 |
| 70° | 1165.6 | 297.5 | 141.7 | 132.7 | 130.1 | 130.1 | 135.2 | 131.4 | 110.8 | 91.4 | 87.6 |
| 72.5° | 396.7 | 159.7 | 105.6 | 100.5 | 94.0 | 92.7 | 113.3 | 109.5 | 88.9 | 70.8 | 67.0 |
| 75° | 207.4 | 106.9 | 77.3 | 72.1 | 56.7 | 68.3 | 90.2 | 85.0 | 63.1 | 46.4 | 42.5 |
| 77.5° | 135.2 | 76.0 | 52.8 | 46.4 | 32.2 | 45.1 | 67.0 | 59.2 | 37.4 | 23.2 | 20.6 |
| 80° | 85.0 | 50.2 | 30.9 | 21.9 | 15.5 | 24.5 | 36.1 | 25.8 | 14.2 | 5.2 | 3.9 |
| 82.5° | 45.1 | 25.8 | 11.6 | 7.7 | 6.4 | 7.7 | 9.0 | 6.4 | 2.6 | 0.0 | 0.0 |
| 85° | 18.0 | 9.0 | 3.9 | 2.6 | 1.3 | 0.0 | 2.6 | 1.3 | 0.0 | 0.0 | 0.0 |
| 87.5° | 6.4 | 1.3 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 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)