

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: P883480

Luminaire Tested: **NAV-SB3D-830-U-T4FT-HSS**

Issue Date: 10/7/2024

Test Information

Test Method: LM-79-08
Report Number: P883480
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-SB3D-830-U-T4FT-HSS
Description: NAVION ROADWAY AND AREA HIGH DENSITY LED LUMINAIRE
(3) 80 CRI, 3000K, 900mA 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: 20221 lumens
Efficiency: N/A
Efficacy: 92.7 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1.5' x H: 0')
IES Classification: Type IV - Short
BUG Rating: B2 - U0 - G4

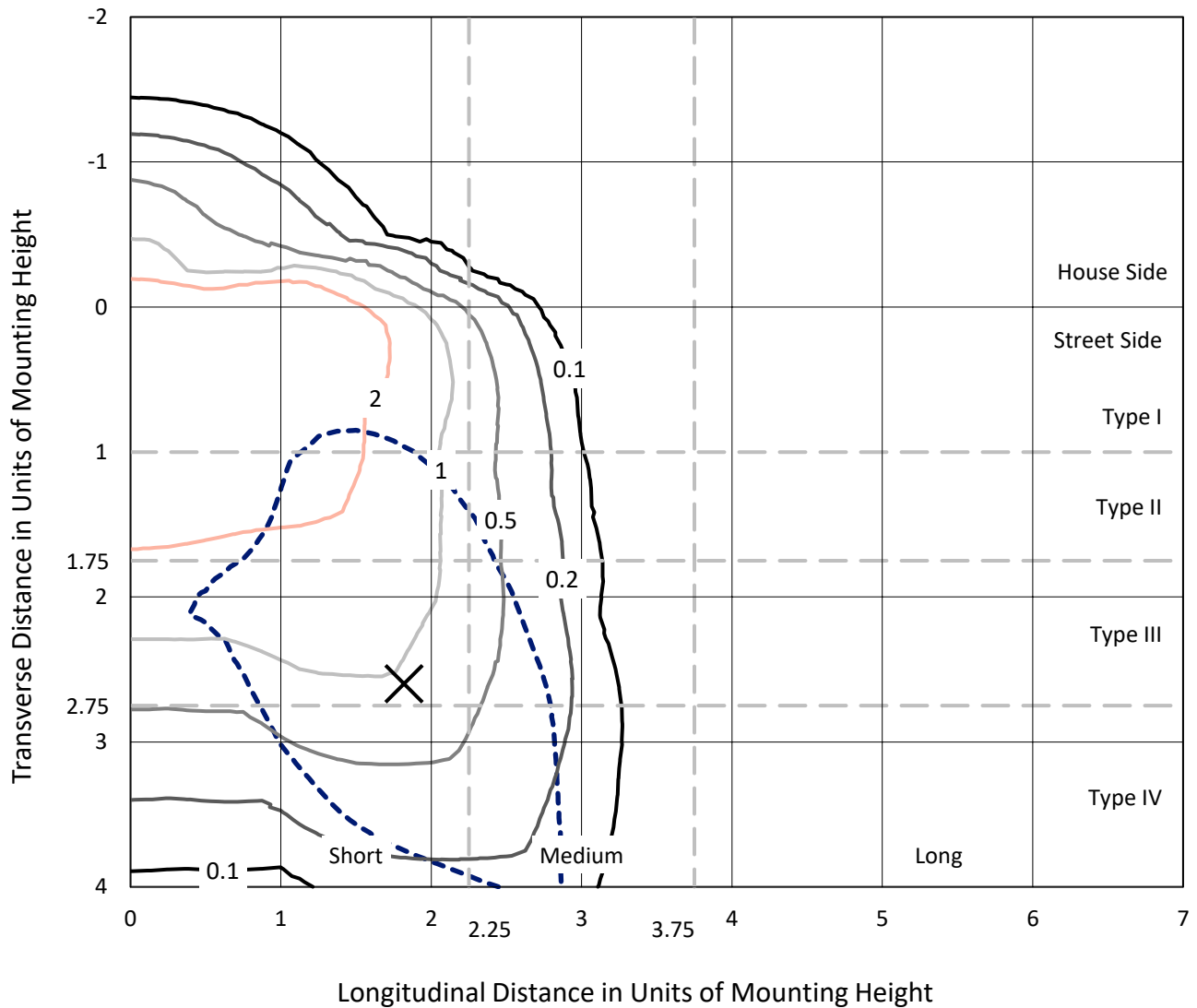
Input Watts (W): 218.1
Input Voltage (V): 120.0
Input Current (Ain): 1.84
Voltage Rise (V): NR
Power Factor: 0.998
Total Harmonic Distortion (THDi): 2.542
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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Iso-Footcandle Lines of Horizontal Illumination

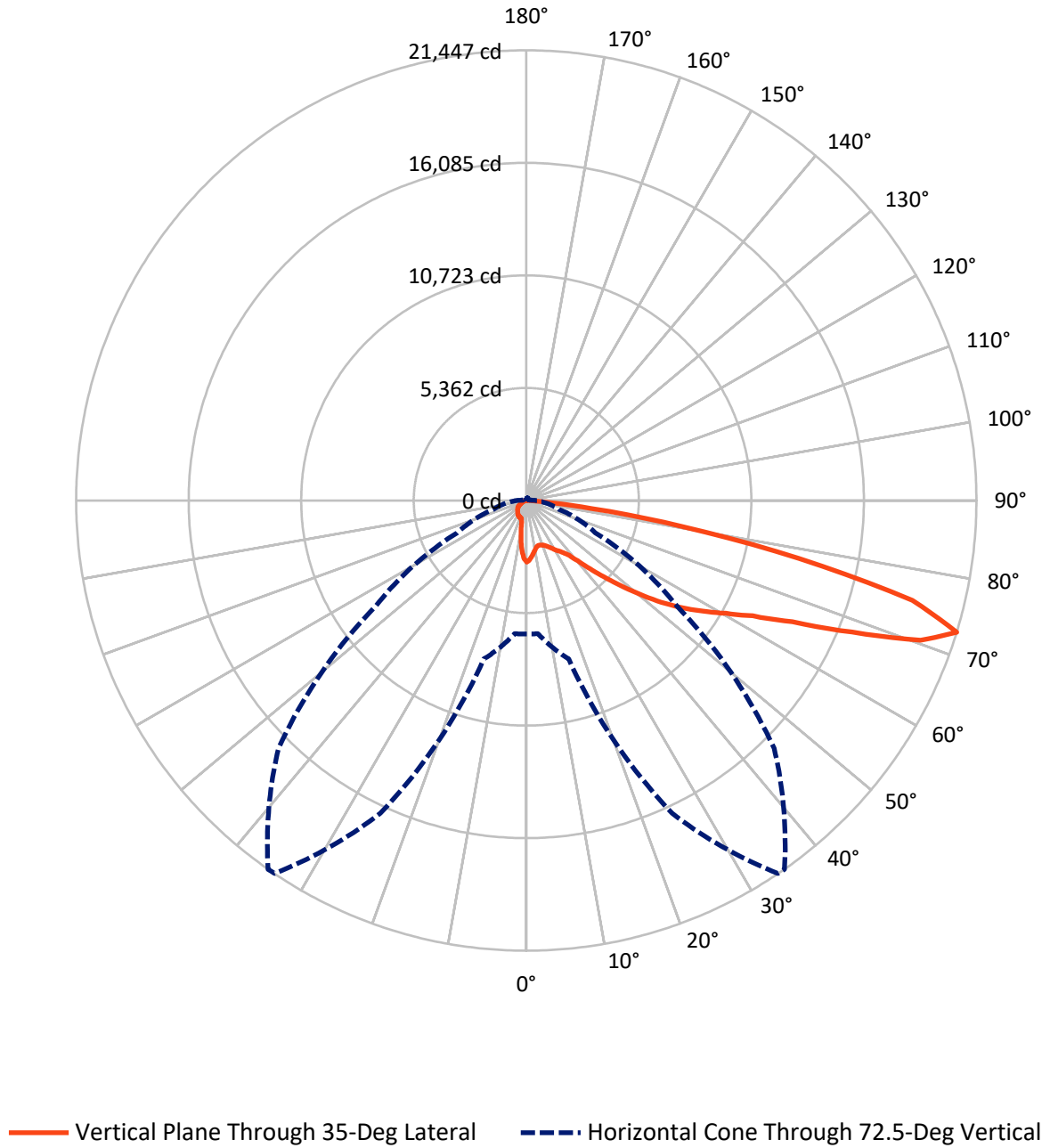
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 4.7 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 | 2275.8 | 0.0 | 2275.8 |
| | % Fixture | 11.3 | 0.0 | 11.3 |
| Street Side | Lumens | 17945.2 | 0.0 | 17945.2 |
| | % Fixture | 88.7 | 0.0 | 88.7 |
| Total | Lumens | 20221.0 | 0.0 | 20221.0 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|---------|-----------|
| 0°-10° | 240.8 | 1.2 |
| 10°-20° | 563.4 | 2.8 |
| 20°-30° | 915.2 | 4.5 |
| 30°-40° | 1527.0 | 7.6 |
| 40°-50° | 2889.1 | 14.3 |
| 50°-60° | 4590.8 | 22.7 |
| 60°-70° | 5679.1 | 28.1 |
| 70°-80° | 3530.2 | 17.5 |
| 80°-90° | 285.3 | 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° | 20221.0 | 100.0 |
| 0°-180° | 20221.0 | 100.0 |

Coefficient of Utilization



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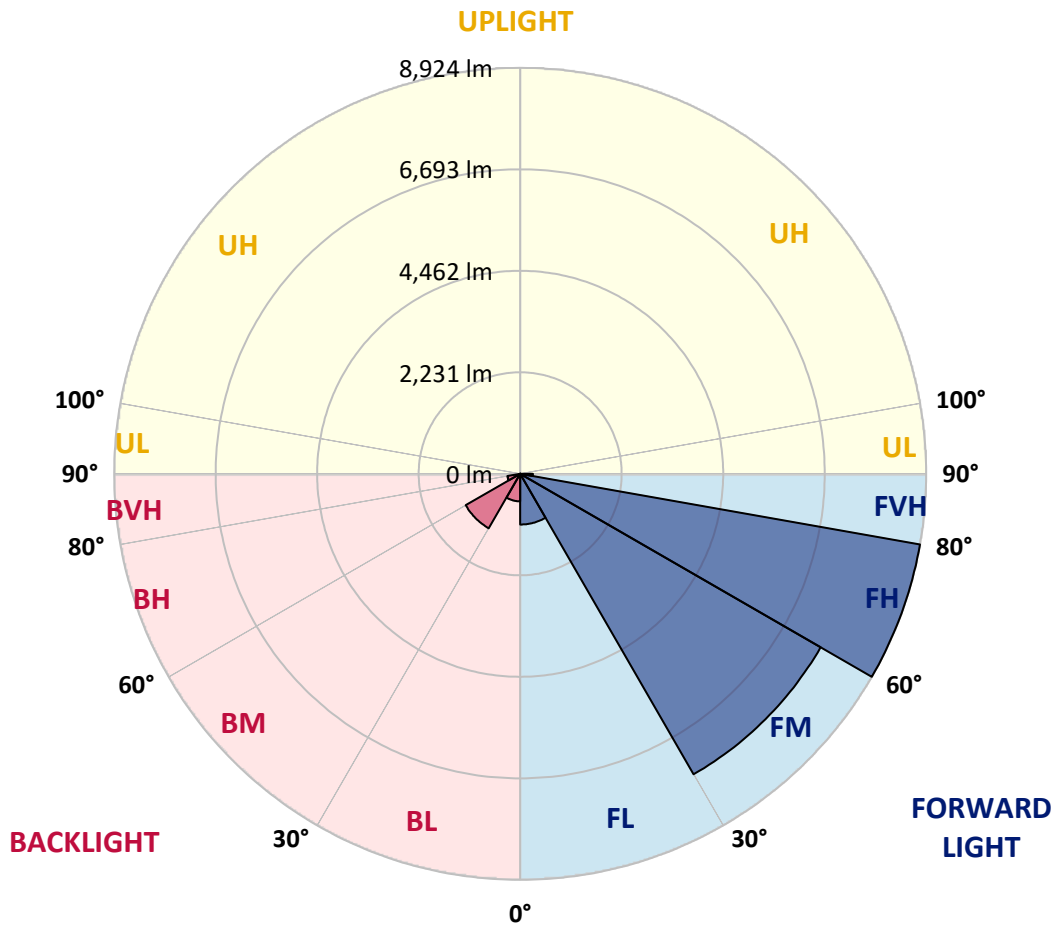
CATALOG NUMBER: NAV-SB3D-830-U-T4FT-HSS

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | Lumens | % Fixture | Zone Rating/Lumen Limit | | |
|----------------|--------|-----------|-------------------------|------|----------|
| | | | B | U | G |
| FL (0°-30°) | 1114.7 | 5.5 | | | |
| FM (30°-60°) | 7625.3 | 37.7 | | | |
| FH (60°-80°) | 8923.8 | 44.1 | | | G4/12000 |
| FVH (80°-90°) | 281.4 | 1.4 | | | G3/500 |
| BL (0°-30°) | 604.7 | 3.0 | B2/1000 | | |
| BM (30°-60°) | 1381.6 | 6.8 | B2/2500 | | |
| BH (60°-80°) | 285.6 | 1.4 | B1/500 | | G1/500 |
| BVH (80°-90°) | 3.9 | 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° | 2930.7 | 2930.7 | 2930.7 | 2930.7 | 2930.7 | 2930.7 | 2930.7 | 2930.7 | 2930.7 | 2930.7 | 2930.7 |
| 2.5° | 2800.3 | 2824.0 | 2828.5 | 2835.9 | 2835.9 | 2844.8 | 2859.6 | 2880.3 | 2914.4 | 2932.2 | 2944.0 |
| 5° | 2581.0 | 2598.8 | 2621.0 | 2638.8 | 2672.9 | 2677.3 | 2735.1 | 2791.4 | 2870.0 | 2929.2 | 2970.7 |
| 7.5° | 2360.3 | 2381.0 | 2410.6 | 2453.6 | 2498.1 | 2511.4 | 2598.8 | 2693.6 | 2818.1 | 2929.2 | 2998.9 |
| 10° | 2204.7 | 2206.2 | 2232.8 | 2275.8 | 2346.9 | 2363.2 | 2469.9 | 2604.7 | 2760.3 | 2911.4 | 3025.5 |
| 12.5° | 2117.3 | 2127.6 | 2139.5 | 2172.1 | 2240.3 | 2250.6 | 2364.7 | 2523.2 | 2702.5 | 2901.1 | 3056.6 |
| 15° | 2117.3 | 2124.7 | 2132.1 | 2148.4 | 2203.2 | 2212.1 | 2312.9 | 2471.4 | 2672.9 | 2905.5 | 3107.0 |
| 17.5° | 2139.5 | 2151.4 | 2145.4 | 2164.7 | 2222.5 | 2228.4 | 2317.3 | 2456.6 | 2671.4 | 2933.7 | 3184.1 |
| 20° | 2192.8 | 2201.7 | 2189.9 | 2201.7 | 2259.5 | 2271.4 | 2363.2 | 2484.7 | 2696.6 | 2982.6 | 3280.4 |
| 22.5° | 2277.3 | 2281.7 | 2253.6 | 2262.5 | 2321.7 | 2336.6 | 2443.2 | 2564.7 | 2757.3 | 3061.1 | 3409.3 |
| 25° | 2384.0 | 2392.9 | 2349.9 | 2360.3 | 2416.6 | 2434.3 | 2557.3 | 2684.7 | 2853.7 | 3169.2 | 3573.7 |
| 27.5° | 2506.9 | 2511.4 | 2474.4 | 2472.9 | 2545.5 | 2570.7 | 2695.1 | 2832.9 | 2982.6 | 3305.6 | 3781.2 |
| 30° | 2647.7 | 2661.0 | 2625.5 | 2619.6 | 2711.4 | 2732.2 | 2855.1 | 3015.2 | 3172.2 | 3510.0 | 4076.0 |
| 32.5° | 2758.8 | 2769.2 | 2748.5 | 2763.3 | 2856.6 | 2872.9 | 3049.2 | 3273.0 | 3470.0 | 3800.4 | 4477.5 |
| 35° | 2918.8 | 2924.8 | 2877.4 | 2904.0 | 3010.7 | 3052.2 | 3314.4 | 3634.5 | 3844.9 | 4164.9 | 5002.0 |
| 37.5° | 3498.2 | 3498.2 | 3296.7 | 3164.8 | 3267.0 | 3304.1 | 3677.5 | 4089.4 | 4307.2 | 4653.9 | 5662.9 |
| 40° | 4299.7 | 4286.4 | 3991.6 | 3721.9 | 3708.6 | 3781.2 | 4194.5 | 4662.7 | 4904.3 | 5240.6 | 6406.6 |
| 42.5° | 5154.7 | 5133.9 | 4732.4 | 4465.7 | 4421.2 | 4446.4 | 4791.7 | 5369.5 | 5615.4 | 5956.2 | 7206.7 |
| 45° | 5913.3 | 5907.3 | 5539.9 | 5181.3 | 5101.3 | 5181.3 | 5536.9 | 6196.3 | 6372.6 | 6731.1 | 8005.3 |
| 47.5° | 6548.9 | 6548.9 | 6280.7 | 6046.6 | 6005.1 | 6052.5 | 6545.9 | 7113.4 | 7097.1 | 7556.4 | 8783.2 |
| 50° | 7280.8 | 7274.9 | 7020.1 | 6919.3 | 6962.3 | 7028.9 | 7707.5 | 8079.4 | 7846.8 | 8366.9 | 9478.1 |
| 52.5° | 7793.5 | 7829.0 | 7741.6 | 7725.3 | 7944.6 | 8060.2 | 8886.9 | 9024.7 | 8518.0 | 9135.8 | 9998.2 |
| 55° | 8199.4 | 8240.9 | 8341.7 | 8455.8 | 8878.0 | 9029.2 | 10029.3 | 9921.1 | 9079.5 | 9802.6 | 10297.5 |
| 57.5° | 8774.3 | 8715.1 | 8870.6 | 9095.8 | 9778.9 | 9961.1 | 11136.1 | 10767.1 | 9531.4 | 10343.4 | 10330.1 |
| 60° | 9472.2 | 9481.1 | 9507.7 | 9792.2 | 10678.2 | 10912.3 | 12226.6 | 11567.2 | 9821.8 | 10675.3 | 9968.5 |
| 62.5° | 10310.8 | 10324.1 | 10378.9 | 10816.0 | 11885.8 | 12106.6 | 13388.2 | 12222.1 | 9955.2 | 10581.9 | 9035.1 |
| 65° | 10253.0 | 10309.3 | 10921.2 | 12416.2 | 13721.5 | 13939.3 | 14743.9 | 12681.4 | 9753.7 | 9728.5 | 7356.4 |
| 67.5° | 9340.3 | 9432.2 | 10456.0 | 14327.5 | 16489.3 | 16732.3 | 16382.6 | 12771.8 | 8884.0 | 7565.3 | 4799.1 |
| 70° | 8143.1 | 8175.7 | 9407.0 | 16046.3 | 19694.1 | 19940.0 | 17849.4 | 11777.6 | 6741.5 | 4219.7 | 2149.9 |
| 72.5° | 6359.2 | 6366.6 | 7811.3 | 16444.8 | 21433.5 | 21446.9 | 16698.2 | 8743.2 | 3625.6 | 1620.9 | 746.8 |
| 75° | 4542.7 | 4498.3 | 5231.7 | 13336.3 | 18856.9 | 19008.1 | 12518.4 | 4101.2 | 1385.3 | 766.0 | 371.9 |
| 77.5° | 2435.8 | 2484.7 | 2960.3 | 7909.0 | 13026.7 | 13284.5 | 6830.4 | 1182.4 | 705.3 | 521.5 | 246.0 |
| 80° | 752.7 | 794.2 | 1213.5 | 3621.1 | 7378.6 | 7534.2 | 2532.1 | 526.0 | 491.9 | 371.9 | 161.5 |
| 82.5° | 237.1 | 246.0 | 566.0 | 1521.7 | 3062.6 | 3133.7 | 733.4 | 297.8 | 336.3 | 246.0 | 94.8 |
| 85° | 68.2 | 69.6 | 251.9 | 567.5 | 757.1 | 771.9 | 205.9 | 115.6 | 192.6 | 152.6 | 48.9 |
| 87.5° | 7.4 | 23.7 | 94.8 | 94.8 | 66.7 | 65.2 | 22.2 | 25.2 | 54.8 | 19.3 | 8.9 |
| 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° | 2930.7 | 2930.7 | 2930.7 | 2930.7 | 2930.7 | 2930.7 | 2930.7 | 2930.7 | 2930.7 | 2930.7 | 2930.7 |
| 2.5° | 2936.6 | 2938.1 | 2918.8 | 2886.3 | 2850.7 | 2821.1 | 2784.0 | 2754.4 | 2733.6 | 2727.7 | 2738.1 |
| 5° | 2957.4 | 2947.0 | 2892.2 | 2792.9 | 2674.4 | 2572.1 | 2458.1 | 2367.7 | 2308.4 | 2283.2 | 2292.1 |
| 7.5° | 2988.5 | 2958.9 | 2838.8 | 2643.3 | 2416.6 | 2215.1 | 2010.6 | 1852.1 | 1751.3 | 1700.9 | 1708.3 |
| 10° | 3015.2 | 2955.9 | 2749.9 | 2426.9 | 2080.2 | 1775.0 | 1499.4 | 1308.3 | 1201.6 | 1151.2 | 1152.7 |
| 12.5° | 3040.3 | 2954.4 | 2634.4 | 2170.6 | 1700.9 | 1327.6 | 1071.2 | 976.4 | 946.8 | 936.4 | 933.4 |
| 15° | 3087.8 | 2958.9 | 2489.2 | 1877.2 | 1323.1 | 1003.1 | 909.7 | 908.3 | 914.2 | 911.2 | 909.7 |
| 17.5° | 3152.9 | 2963.3 | 2324.7 | 1566.1 | 1020.9 | 884.5 | 880.1 | 893.4 | 902.3 | 897.9 | 896.4 |
| 20° | 3237.4 | 2981.1 | 2149.9 | 1257.9 | 877.1 | 854.9 | 865.3 | 877.1 | 884.5 | 877.1 | 875.7 |
| 22.5° | 3355.9 | 3012.2 | 1958.7 | 1010.5 | 831.2 | 837.1 | 846.0 | 859.4 | 866.8 | 856.4 | 854.9 |
| 25° | 3501.1 | 3061.1 | 1770.6 | 878.6 | 809.0 | 816.4 | 829.7 | 844.5 | 853.4 | 843.1 | 841.6 |
| 27.5° | 3689.3 | 3139.6 | 1597.2 | 849.0 | 786.8 | 791.2 | 810.5 | 832.7 | 844.5 | 831.2 | 831.2 |
| 30° | 3961.9 | 3268.5 | 1447.6 | 862.3 | 773.4 | 763.0 | 789.7 | 820.8 | 834.2 | 822.3 | 820.8 |
| 32.5° | 4323.5 | 3450.8 | 1355.7 | 883.1 | 767.5 | 730.5 | 755.6 | 795.6 | 817.9 | 810.5 | 810.5 |
| 35° | 4797.6 | 3727.8 | 1320.1 | 906.8 | 763.0 | 696.4 | 714.2 | 757.1 | 795.6 | 803.1 | 803.1 |
| 37.5° | 5372.5 | 4113.1 | 1330.5 | 917.1 | 749.7 | 668.2 | 677.1 | 714.2 | 764.5 | 788.2 | 794.2 |
| 40° | 6025.9 | 4562.0 | 1389.8 | 906.8 | 734.9 | 644.5 | 646.0 | 674.2 | 718.6 | 754.2 | 766.0 |
| 42.5° | 6700.0 | 5086.5 | 1499.4 | 868.2 | 721.6 | 623.8 | 619.3 | 638.6 | 668.2 | 693.4 | 703.8 |
| 45° | 7341.6 | 5625.8 | 1607.6 | 814.9 | 705.3 | 603.0 | 592.7 | 600.1 | 606.0 | 616.4 | 622.3 |
| 47.5° | 7901.6 | 6005.1 | 1576.5 | 766.0 | 683.0 | 579.3 | 561.5 | 558.6 | 540.8 | 539.3 | 537.8 |
| 50° | 8288.3 | 6088.1 | 1400.2 | 717.1 | 650.4 | 552.7 | 524.5 | 506.7 | 475.6 | 460.8 | 462.3 |
| 52.5° | 8411.3 | 5760.6 | 1143.8 | 668.2 | 597.1 | 517.1 | 477.1 | 448.9 | 410.4 | 397.1 | 395.6 |
| 55° | 8248.3 | 5119.1 | 914.2 | 609.0 | 523.0 | 469.7 | 425.2 | 388.2 | 357.1 | 340.8 | 340.8 |
| 57.5° | 7849.8 | 4302.7 | 723.0 | 539.3 | 444.5 | 416.3 | 371.9 | 334.9 | 308.2 | 291.9 | 288.9 |
| 60° | 7189.0 | 3416.7 | 571.9 | 456.3 | 379.3 | 358.6 | 312.6 | 288.9 | 265.2 | 246.0 | 241.5 |
| 62.5° | 6185.9 | 2438.8 | 448.9 | 361.5 | 317.1 | 293.4 | 266.7 | 248.9 | 220.8 | 194.1 | 189.7 |
| 65° | 4827.2 | 1492.0 | 346.7 | 265.2 | 254.8 | 243.0 | 226.7 | 210.4 | 176.3 | 149.6 | 145.2 |
| 67.5° | 3044.8 | 706.7 | 247.4 | 200.0 | 201.5 | 195.6 | 188.2 | 174.8 | 149.6 | 125.9 | 123.0 |
| 70° | 1340.9 | 342.3 | 163.0 | 152.6 | 149.6 | 149.6 | 155.6 | 151.1 | 127.4 | 105.2 | 100.8 |
| 72.5° | 456.3 | 183.7 | 121.5 | 115.6 | 108.2 | 106.7 | 130.4 | 125.9 | 102.2 | 81.5 | 77.0 |
| 75° | 238.5 | 123.0 | 88.9 | 83.0 | 65.2 | 78.5 | 103.7 | 97.8 | 72.6 | 53.3 | 48.9 |
| 77.5° | 155.6 | 87.4 | 60.7 | 53.3 | 37.0 | 51.9 | 77.0 | 68.2 | 43.0 | 26.7 | 23.7 |
| 80° | 97.8 | 57.8 | 35.6 | 25.2 | 17.8 | 28.2 | 41.5 | 29.6 | 16.3 | 5.9 | 4.4 |
| 82.5° | 51.9 | 29.6 | 13.3 | 8.9 | 7.4 | 8.9 | 10.4 | 7.4 | 3.0 | 0.0 | 0.0 |
| 85° | 20.7 | 10.4 | 4.4 | 3.0 | 1.5 | 0.0 | 3.0 | 1.5 | 0.0 | 0.0 | 0.0 |
| 87.5° | 7.4 | 1.5 | 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)