

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: INVUE

Report Number: P401085

Luminaire Tested: **ENT-SA1B-727-U-T4FT-HSS**

Issue Date: 5/20/2020

Test Information

Test Method: LM-79-08
Report Number: P401085
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-2004-754-16)
Test Lab: INNOVATION CENTER
Issue Date: 5/20/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: INVUE
Catalog Number: ENT-SA1B-727-U-T4FT-HSS
Description: ENTRI LED LUMINAIRE
(1) 70 CRI, 2700K, 450mA LIGHTSQUARE WITH 16 LEDS AND TYPE IV FORWARD
THROW OPTICS WITH HOUSE SIDE SHIELD
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2030 lumens
Efficiency: N/A
Efficacy: 79.9 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')
IES Classification: Type IV - Short - Semi-Cutoff
BUG Rating: B0 - U0 - G1

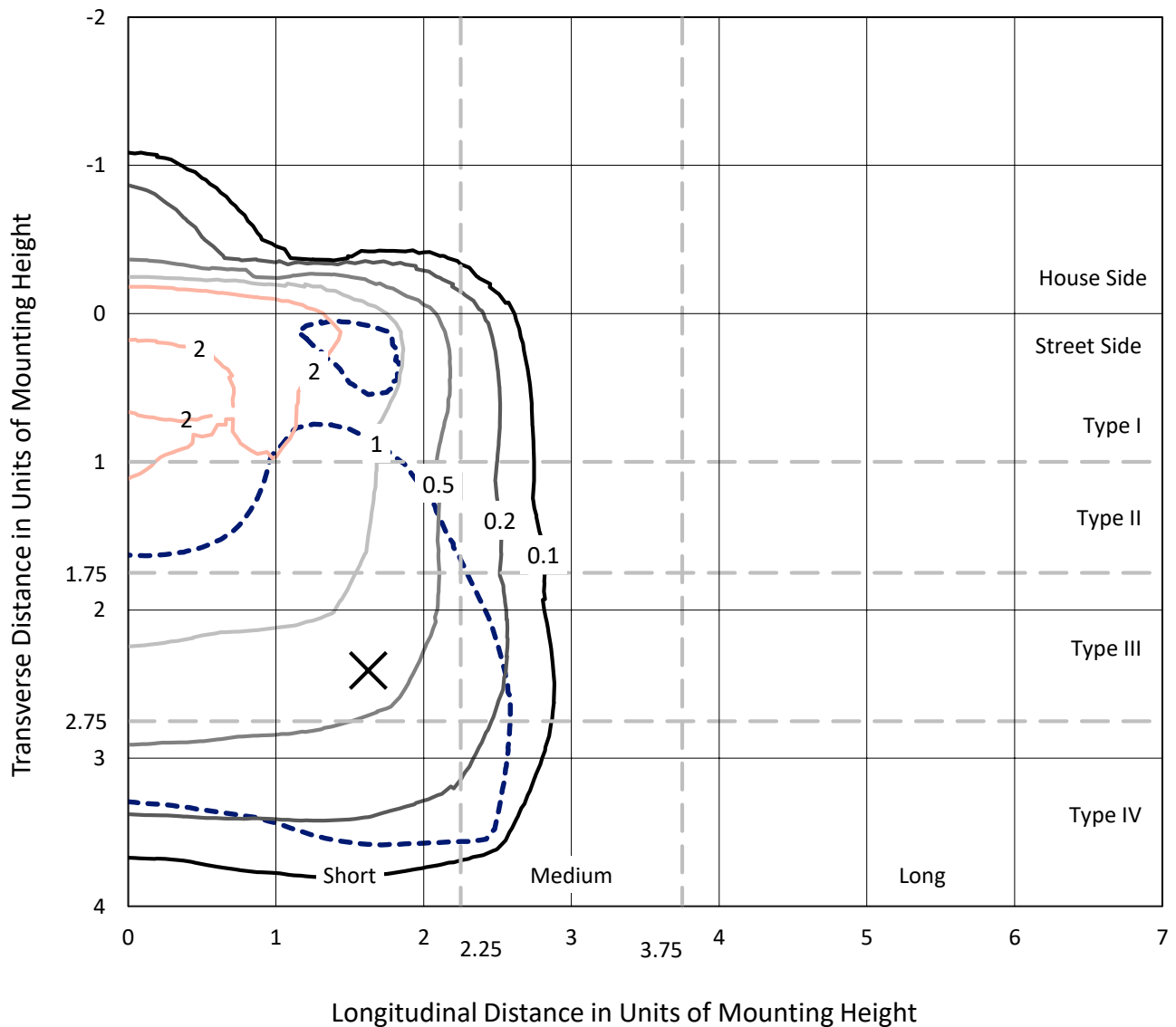
Input Watts (W): 25.4
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

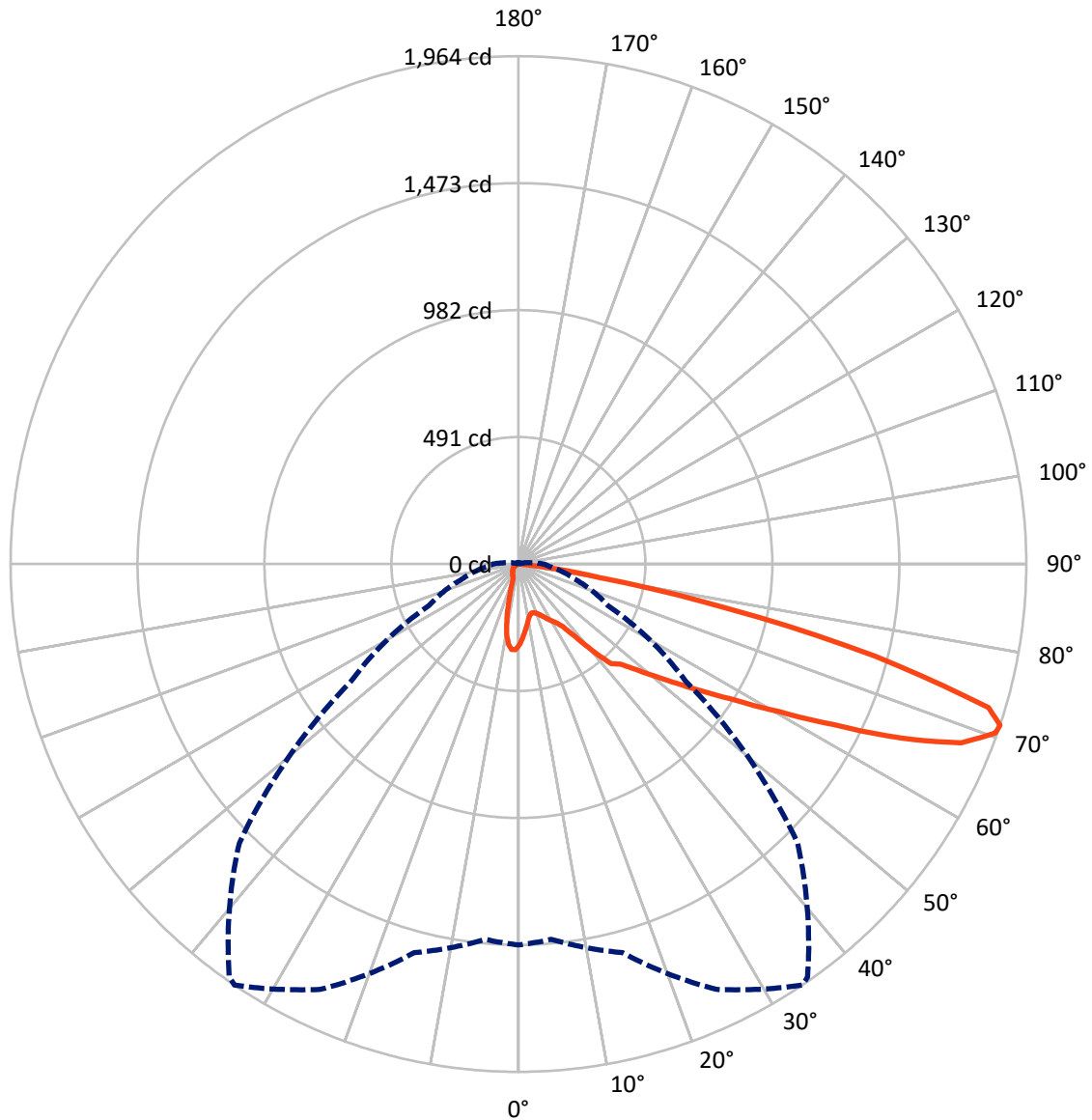
× Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 3.1 fc
 Type IV - Short - Semi-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 34-Deg Lateral - - - Horizontal Cone Through 71-Deg Vertical

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FLUX DISTRIBUTION:

| | | Downward | Upward | Total |
|--------------------|-----------|----------|--------|--------|
| House Side | Lumens | 224.5 | 0.0 | 224.5 |
| | % Fixture | 11.1 | 0.0 | 11.1 |
| Street Side | Lumens | 1805.5 | 0.0 | 1805.5 |
| | % Fixture | 88.9 | 0.0 | 88.9 |
| Total | Lumens | 2030.0 | 0.0 | 2030.0 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

Coefficient of Utilization

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 27.7 | 1.4 |
| 10°-20° | 63.5 | 3.1 |
| 20°-30° | 94.8 | 4.7 |
| 30°-40° | 158.4 | 7.8 |
| 40°-50° | 286.1 | 14.1 |
| 50°-60° | 453.9 | 22.4 |
| 60°-70° | 609.9 | 30.0 |
| 70°-80° | 323.6 | 15.9 |
| 80°-90° | 11.9 | 0.6 |
| 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° | 2030.0 | 100.0 |
| 0°-180° | 2030.0 | 100.0 |



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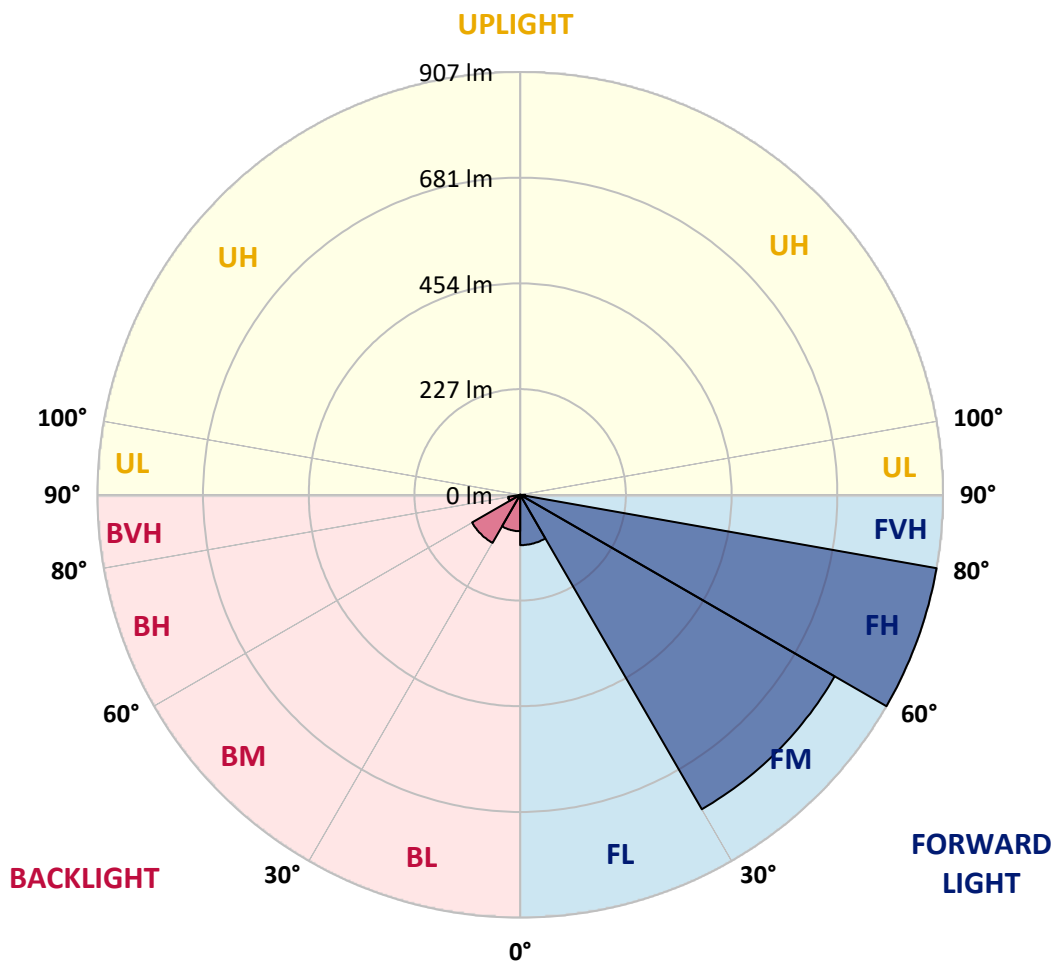
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | | Lumens | % Fixture | Zone Rating/Lumen Limit | | |
|------|-------------|--------|-----------|-------------------------|------|---------|
| | | | | B | U | G |
| FL | (0°-30°) | 108.0 | 5.3 | | | |
| FM | (30°-60°) | 779.3 | 38.4 | | | |
| FH | (60°-80°) | 907.4 | 44.7 | | | G1/1800 |
| FVH | (80°-90°) | 10.9 | 0.5 | | | G1/100 |
| BL | (0°-30°) | 78.1 | 3.8 | B0/110 | | |
| BM | (30°-60°) | 119.1 | 5.9 | B0/220 | | |
| BH | (60°-80°) | 26.2 | 1.3 | B0/110 | | G0/110 |
| BVH | (80°-90°) | 1.1 | 0.1 | | | G0/10 |
| UL | (90°-100°) | 0.0 | 0.0 | | U0/0 | |
| UH | (100°-180°) | 0.0 | 0.0 | | U0/0 | |

BUG Rating: B0-U0-G1

Type IV Short





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CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 15° | 25° | 34° | 35° | 45° | 55° | 65° | 75° | 85° |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|-------|--------|--------|
| 0° | 314.5 | 314.5 | 314.5 | 314.5 | 314.5 | 314.5 | 314.5 | 314.5 | 314.5 | 314.5 | 314.5 |
| 2.5° | 286.4 | 282.8 | 286.0 | 287.6 | 288.9 | 290.5 | 292.9 | 297.4 | 302.3 | 308.0 | 311.3 |
| 5° | 249.8 | 251.8 | 253.0 | 257.5 | 262.0 | 262.8 | 270.5 | 279.5 | 290.9 | 302.3 | 312.1 |
| 7.5° | 220.0 | 220.0 | 223.7 | 230.6 | 237.9 | 238.8 | 252.2 | 264.0 | 280.3 | 297.8 | 313.7 |
| 10° | 196.4 | 197.2 | 200.0 | 207.0 | 216.3 | 218.4 | 233.5 | 249.8 | 270.1 | 292.9 | 315.4 |
| 12.5° | 188.6 | 188.2 | 187.8 | 192.7 | 200.5 | 202.5 | 219.2 | 238.8 | 262.8 | 290.5 | 319.4 |
| 15° | 193.5 | 192.3 | 189.5 | 190.3 | 195.2 | 197.2 | 211.9 | 231.4 | 258.3 | 290.1 | 326.4 |
| 17.5° | 201.3 | 199.6 | 194.3 | 192.7 | 198.0 | 200.0 | 212.3 | 229.4 | 256.7 | 292.1 | 334.5 |
| 20° | 210.6 | 209.0 | 200.9 | 198.8 | 204.1 | 205.8 | 218.4 | 233.1 | 257.5 | 296.2 | 345.5 |
| 22.5° | 224.1 | 222.1 | 210.2 | 207.8 | 213.1 | 214.7 | 228.2 | 241.6 | 262.4 | 303.5 | 360.6 |
| 25° | 240.4 | 237.9 | 222.9 | 219.6 | 226.1 | 227.8 | 241.2 | 253.8 | 270.5 | 313.3 | 379.7 |
| 27.5° | 258.3 | 255.5 | 239.6 | 233.1 | 240.4 | 242.8 | 255.5 | 269.3 | 282.4 | 325.5 | 405.0 |
| 30° | 274.6 | 271.3 | 255.9 | 248.5 | 255.9 | 257.1 | 272.2 | 287.6 | 301.5 | 346.3 | 442.1 |
| 32.5° | 319.8 | 311.7 | 287.6 | 266.5 | 271.3 | 273.8 | 292.1 | 316.6 | 337.4 | 371.2 | 489.7 |
| 35° | 387.5 | 380.9 | 351.6 | 314.9 | 297.8 | 298.6 | 322.3 | 353.2 | 362.6 | 400.1 | 548.8 |
| 37.5° | 452.7 | 447.0 | 421.3 | 387.5 | 354.9 | 356.1 | 360.2 | 389.9 | 400.9 | 450.2 | 620.9 |
| 40° | 524.0 | 515.0 | 494.6 | 462.4 | 440.0 | 434.7 | 414.8 | 435.5 | 459.6 | 513.4 | 699.6 |
| 42.5° | 557.0 | 548.4 | 527.2 | 529.3 | 526.8 | 517.4 | 477.9 | 506.8 | 533.7 | 605.0 | 786.3 |
| 45° | 611.6 | 594.9 | 551.3 | 554.5 | 551.3 | 552.1 | 561.8 | 603.8 | 627.0 | 702.0 | 884.5 |
| 47.5° | 662.1 | 642.9 | 597.3 | 594.0 | 608.3 | 615.6 | 668.2 | 719.1 | 721.2 | 786.3 | 961.5 |
| 50° | 708.1 | 694.3 | 652.3 | 652.7 | 678.8 | 686.9 | 792.0 | 838.5 | 797.3 | 851.1 | 1021.8 |
| 52.5° | 769.2 | 749.7 | 712.2 | 725.6 | 766.4 | 773.7 | 915.5 | 943.2 | 852.3 | 909.8 | 1069.1 |
| 55° | 825.9 | 815.3 | 787.6 | 807.5 | 869.9 | 889.0 | 1041.0 | 1023.9 | 891.1 | 961.9 | 1091.9 |
| 57.5° | 918.8 | 908.6 | 901.2 | 911.4 | 994.9 | 1019.0 | 1168.1 | 1080.9 | 921.2 | 996.6 | 1081.3 |
| 60° | 1073.6 | 1063.4 | 1041.4 | 1050.8 | 1159.6 | 1171.8 | 1267.9 | 1138.8 | 933.0 | 1006.4 | 1039.8 |
| 62.5° | 1264.7 | 1252.0 | 1216.6 | 1259.8 | 1369.0 | 1368.6 | 1371.4 | 1169.3 | 917.9 | 977.4 | 930.2 |
| 65° | 1437.0 | 1419.5 | 1401.2 | 1489.2 | 1622.0 | 1603.7 | 1481.4 | 1173.0 | 870.3 | 837.7 | 719.5 |
| 67.5° | 1562.5 | 1555.6 | 1565.8 | 1703.1 | 1846.1 | 1827.7 | 1588.2 | 1122.5 | 724.4 | 604.6 | 444.5 |
| 70° | 1557.6 | 1543.4 | 1608.1 | 1827.3 | 1957.3 | 1942.2 | 1583.7 | 922.4 | 483.2 | 320.2 | 186.2 |
| 71° | 1473.3 | 1457.0 | 1555.6 | 1815.1 | 1963.8 | 1949.6 | 1526.6 | 789.2 | 382.2 | 226.1 | 122.6 |
| 72.5° | 1138.4 | 1187.7 | 1344.5 | 1684.3 | 1901.1 | 1882.7 | 1371.4 | 604.2 | 242.0 | 130.8 | 61.5 |
| 75° | 481.6 | 508.5 | 798.2 | 1202.3 | 1426.0 | 1416.6 | 924.5 | 279.1 | 111.2 | 59.1 | 23.6 |
| 77.5° | 123.9 | 122.2 | 244.5 | 515.8 | 830.3 | 845.0 | 426.2 | 95.7 | 57.9 | 42.0 | 13.4 |
| 80° | 24.0 | 26.1 | 69.7 | 179.3 | 317.0 | 325.5 | 138.9 | 42.0 | 38.7 | 33.0 | 6.9 |
| 82.5° | 2.4 | 2.9 | 12.2 | 55.4 | 106.3 | 102.7 | 30.6 | 15.9 | 23.6 | 22.4 | 3.3 |
| 85° | 0.0 | 0.0 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 1.6 | 5.7 | 6.1 | 0.8 |
| 87.5° | 0.0 | 0.0 | 0.4 | 0.4 | 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 |



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CANDELA DISTRIBUTION (continued):

| | 90° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0° | 314.5 | 314.5 | 314.5 | 314.5 | 314.5 | 314.5 | 314.5 | 314.5 | 314.5 | 314.5 | 314.5 |
| 2.5° | 313.7 | 317.4 | 321.5 | 324.3 | 327.2 | 327.6 | 331.6 | 330.8 | 332.1 | 332.5 | 332.1 |
| 5° | 317.4 | 322.3 | 330.0 | 334.1 | 335.7 | 332.9 | 332.1 | 327.6 | 325.9 | 323.9 | 321.9 |
| 7.5° | 321.5 | 327.6 | 336.5 | 338.6 | 332.9 | 322.3 | 313.7 | 302.7 | 292.5 | 286.0 | 286.8 |
| 10° | 325.9 | 333.7 | 341.0 | 335.7 | 321.1 | 300.3 | 276.2 | 251.8 | 230.2 | 222.1 | 224.9 |
| 12.5° | 331.6 | 341.0 | 344.3 | 329.6 | 301.1 | 259.1 | 215.5 | 178.5 | 156.0 | 142.6 | 141.0 |
| 15° | 340.2 | 349.6 | 345.9 | 319.8 | 269.3 | 203.7 | 149.5 | 112.0 | 90.4 | 83.5 | 79.9 |
| 17.5° | 350.8 | 359.8 | 345.9 | 302.3 | 224.1 | 145.9 | 90.9 | 68.0 | 61.1 | 59.5 | 59.9 |
| 20° | 363.8 | 372.4 | 344.3 | 275.8 | 172.8 | 89.6 | 60.7 | 56.2 | 56.2 | 56.2 | 55.8 |
| 22.5° | 381.4 | 385.8 | 341.8 | 240.8 | 119.0 | 60.7 | 53.8 | 53.4 | 53.8 | 53.8 | 53.8 |
| 25° | 402.5 | 401.7 | 337.4 | 198.8 | 75.0 | 51.7 | 51.3 | 51.3 | 51.7 | 52.2 | 52.2 |
| 27.5° | 430.7 | 422.1 | 329.6 | 148.7 | 53.0 | 48.1 | 48.9 | 49.7 | 50.5 | 51.3 | 51.3 |
| 30° | 469.8 | 449.0 | 317.0 | 100.6 | 44.8 | 44.4 | 46.0 | 48.5 | 49.7 | 50.5 | 50.5 |
| 32.5° | 511.7 | 476.7 | 295.4 | 64.4 | 41.2 | 40.7 | 42.4 | 46.0 | 49.3 | 50.1 | 50.1 |
| 35° | 564.7 | 506.4 | 263.2 | 46.4 | 38.7 | 37.9 | 39.5 | 42.8 | 47.7 | 50.1 | 50.1 |
| 37.5° | 620.5 | 538.2 | 216.3 | 39.1 | 36.3 | 35.4 | 36.7 | 39.1 | 44.8 | 49.3 | 49.7 |
| 40° | 680.0 | 566.3 | 162.6 | 36.3 | 33.8 | 33.4 | 33.8 | 36.3 | 40.7 | 46.9 | 48.1 |
| 42.5° | 739.9 | 590.0 | 113.7 | 33.4 | 31.8 | 31.0 | 31.8 | 33.4 | 37.5 | 42.8 | 43.6 |
| 45° | 805.9 | 616.0 | 75.8 | 31.0 | 30.1 | 29.3 | 30.1 | 31.4 | 34.2 | 37.1 | 37.5 |
| 47.5° | 854.0 | 625.4 | 52.2 | 28.1 | 27.7 | 28.1 | 28.5 | 29.3 | 31.0 | 31.4 | 31.0 |
| 50° | 885.8 | 620.5 | 37.5 | 25.3 | 25.7 | 26.9 | 26.9 | 27.3 | 27.3 | 26.1 | 25.7 |
| 52.5° | 909.0 | 602.6 | 28.9 | 21.6 | 24.0 | 25.3 | 25.3 | 24.4 | 23.6 | 22.0 | 21.6 |
| 55° | 911.4 | 562.3 | 22.8 | 18.7 | 21.6 | 23.6 | 23.2 | 21.6 | 20.0 | 18.3 | 18.3 |
| 57.5° | 880.5 | 501.1 | 18.7 | 15.9 | 18.7 | 20.8 | 20.0 | 18.3 | 16.3 | 15.1 | 15.1 |
| 60° | 830.3 | 438.4 | 15.9 | 13.4 | 15.5 | 17.5 | 16.3 | 15.1 | 13.0 | 11.8 | 11.8 |
| 62.5° | 737.9 | 376.5 | 13.0 | 11.0 | 12.6 | 13.9 | 13.4 | 12.2 | 10.2 | 9.4 | 9.0 |
| 65° | 565.5 | 286.4 | 9.8 | 8.6 | 9.8 | 11.4 | 10.6 | 9.4 | 8.1 | 6.9 | 6.5 |
| 67.5° | 339.8 | 172.3 | 7.7 | 6.5 | 7.7 | 9.0 | 8.1 | 6.9 | 5.7 | 4.9 | 4.9 |
| 70° | 143.8 | 73.7 | 6.1 | 4.9 | 5.7 | 6.9 | 6.5 | 5.7 | 4.5 | 4.1 | 4.1 |
| 71° | 97.8 | 52.6 | 5.3 | 4.5 | 5.3 | 6.5 | 6.1 | 5.3 | 4.5 | 4.1 | 4.1 |
| 72.5° | 50.1 | 26.9 | 4.5 | 3.7 | 4.9 | 5.7 | 5.7 | 4.9 | 4.1 | 4.1 | 4.1 |
| 75° | 17.9 | 11.4 | 3.7 | 3.3 | 4.1 | 4.1 | 4.5 | 4.5 | 4.5 | 4.5 | 4.1 |
| 77.5° | 10.2 | 6.9 | 3.3 | 3.3 | 3.3 | 3.7 | 4.5 | 4.9 | 5.3 | 5.3 | 4.9 |
| 80° | 5.7 | 3.7 | 2.0 | 2.4 | 3.3 | 3.7 | 4.5 | 4.9 | 5.7 | 5.7 | 5.3 |
| 82.5° | 2.9 | 1.2 | 0.4 | 1.2 | 2.0 | 3.3 | 3.7 | 4.1 | 4.9 | 4.5 | 4.5 |
| 85° | 0.4 | 0.0 | 0.0 | 0.4 | 1.2 | 1.6 | 2.4 | 3.3 | 4.1 | 4.1 | 3.7 |
| 87.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.4 | 0.8 | 1.2 | 2.0 | 2.9 | 3.3 | 2.9 |
| 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)