

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: McGRAW-EDISON

Report Number: P237561

Luminaire Tested: **CTN-8-4-D-E1-T2-HSS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P237561
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1707-171-25)
Test Lab: INNOVATION CENTER(G2)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: MCGRAW-EDISON
Catalog Number: CTN-8-4-D-E1-T2-HSS
Description: CELESTEON HIGH MAST LUMINAIRE
(8) 70 CRI, 4000K LEDS AND TYPE II OPTICS WITH HOUSE SIDE SHIELD
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 39202 lumens
Efficiency: N/A
Efficacy: 120.6 lumens/watt
Luminous Opening: Circular (Dia: 2.08' x H: 0')
IES Classification: Type II - Short - Non-Cutoff
BUG Rating: B3 - U0 - G4

Input Watts (W): 325
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

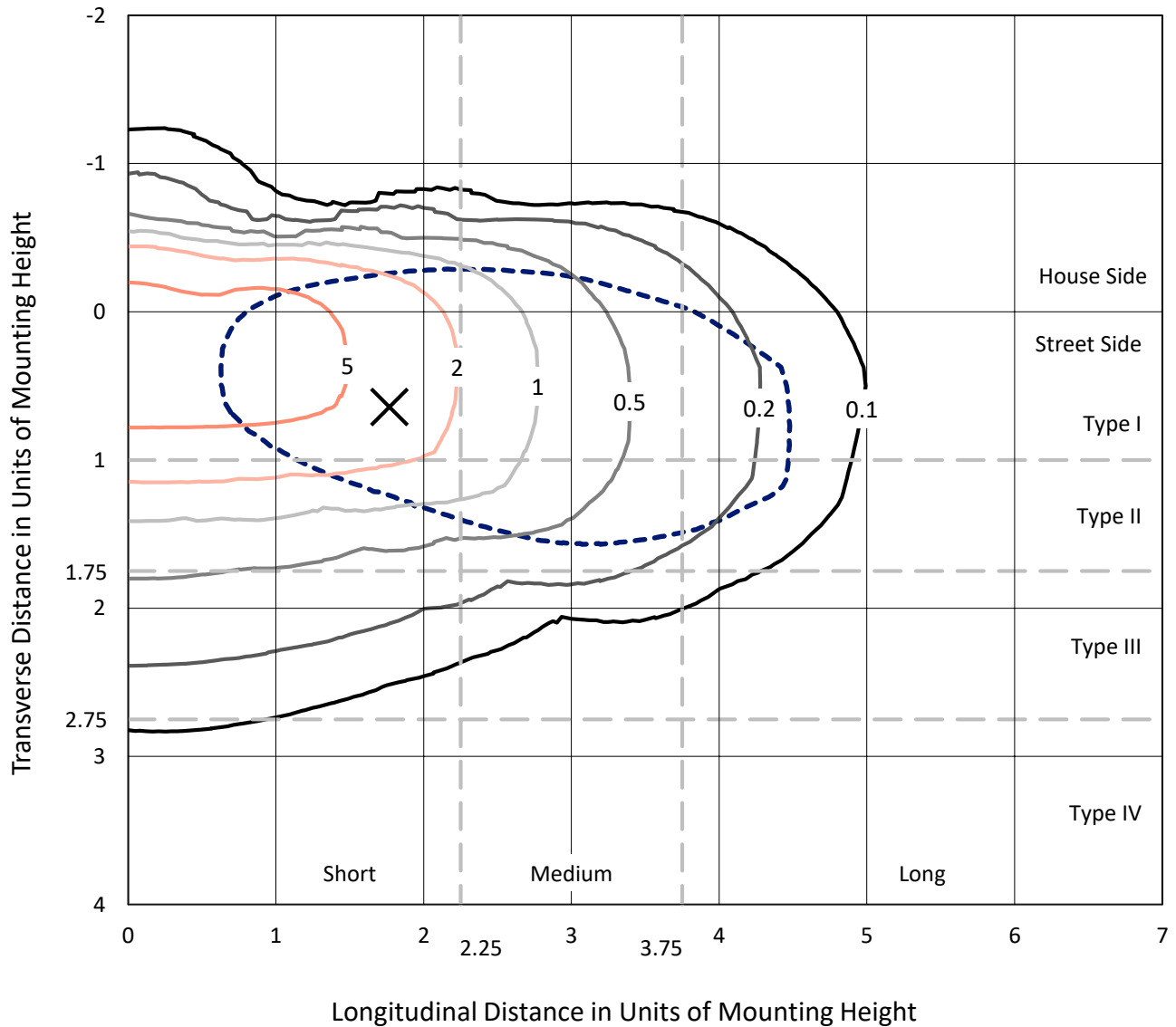


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Iso-Footcandle Lines of Horizontal Illumination

× Max cd
 - - - 1/2 Max cd

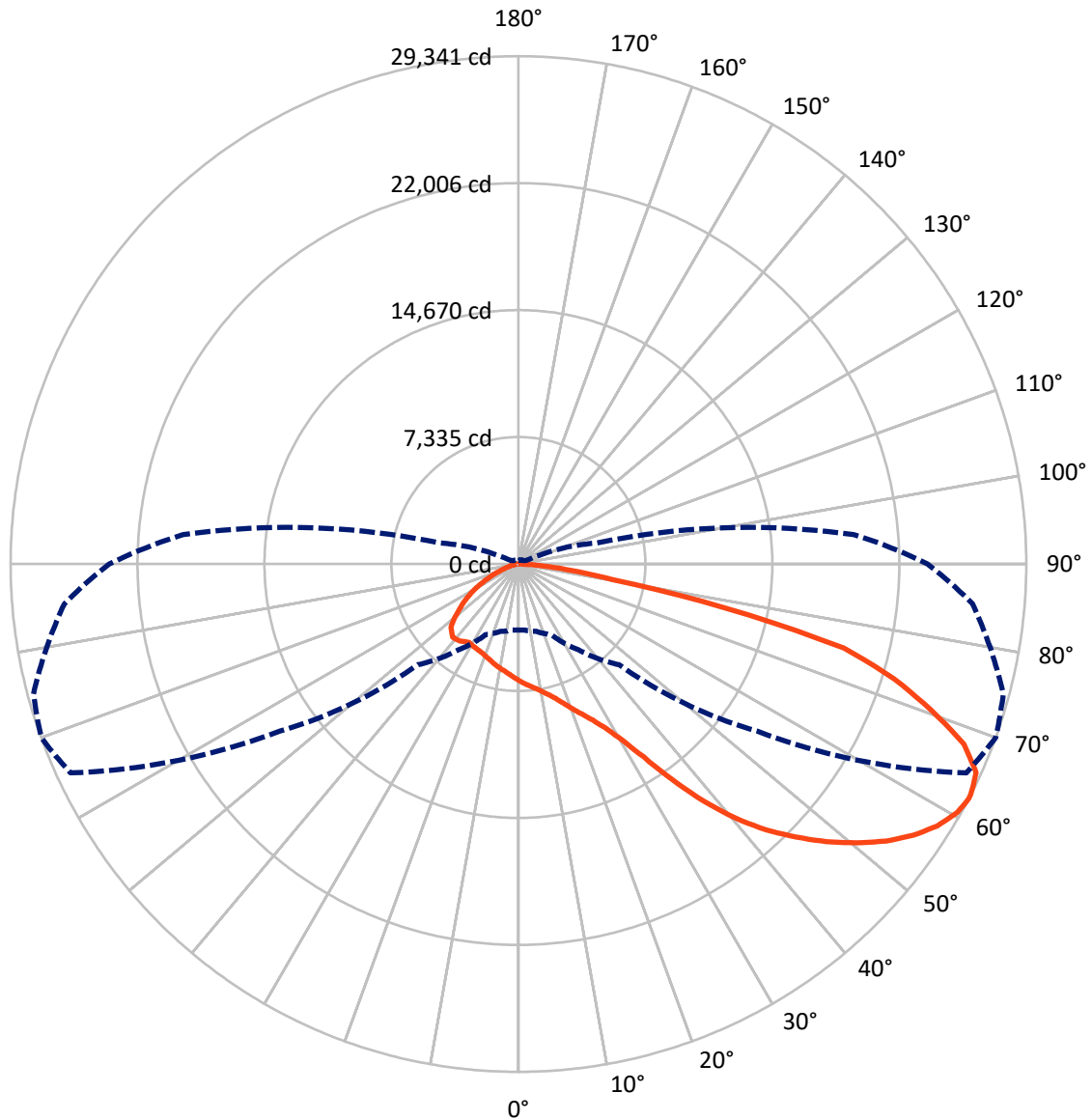


Based on 30 foot mounting height. Maximum calculated value = 9.7 fc
 Type II - Short - Non-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 70-Deg Lateral - - - Horizontal Cone Through 62-Deg Vertical

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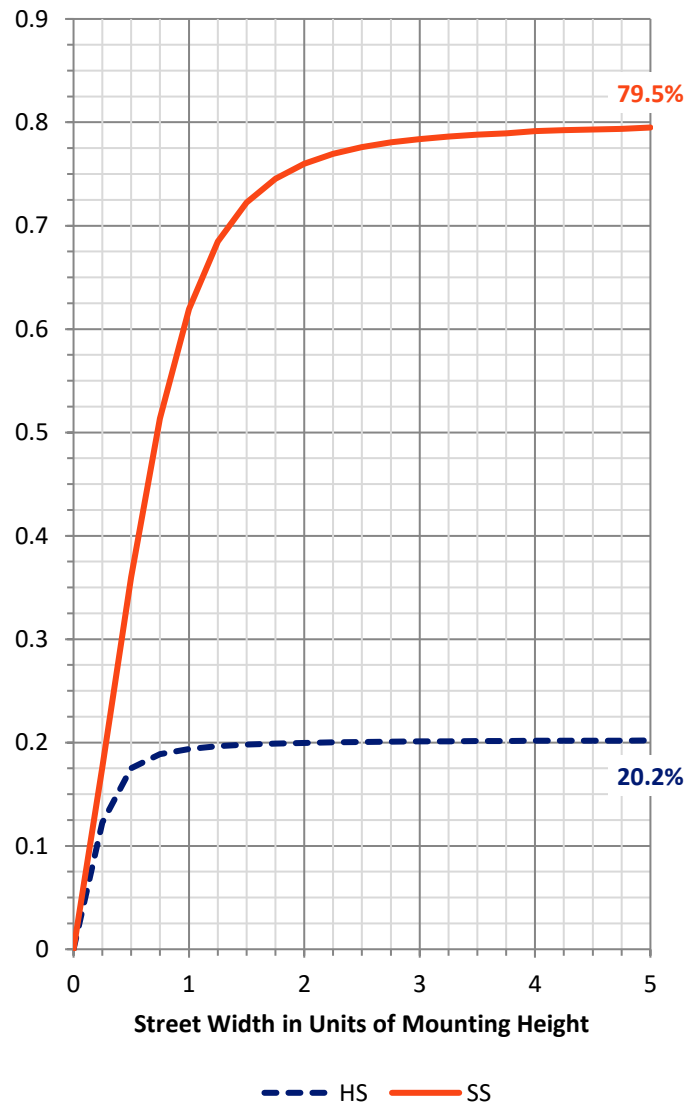
FLUX DISTRIBUTION:

| | | Downward | Upward | Total |
|--------------------|-----------|----------|--------|---------|
| House Side | Lumens | 8019.1 | 0.0 | 8019.1 |
| | % Fixture | 20.5 | 0.0 | 20.5 |
| Street Side | Lumens | 31182.9 | 0.0 | 31182.9 |
| | % Fixture | 79.5 | 0.0 | 79.5 |
| Total | Lumens | 39202.0 | 0.0 | 39202.0 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

Coefficient of Utilization

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|---------|-----------|
| 0°-10° | 642.4 | 1.6 |
| 10°-20° | 1954.5 | 5.0 |
| 20°-30° | 3290.7 | 8.4 |
| 30°-40° | 4968.8 | 12.7 |
| 40°-50° | 6967.8 | 17.8 |
| 50°-60° | 8143.7 | 20.8 |
| 60°-70° | 7900.9 | 20.2 |
| 70°-80° | 4618.8 | 11.8 |
| 80°-90° | 714.5 | 1.8 |
| 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° | 39202.0 | 100.0 |
| 0°-180° | 39202.0 | 100.0 |



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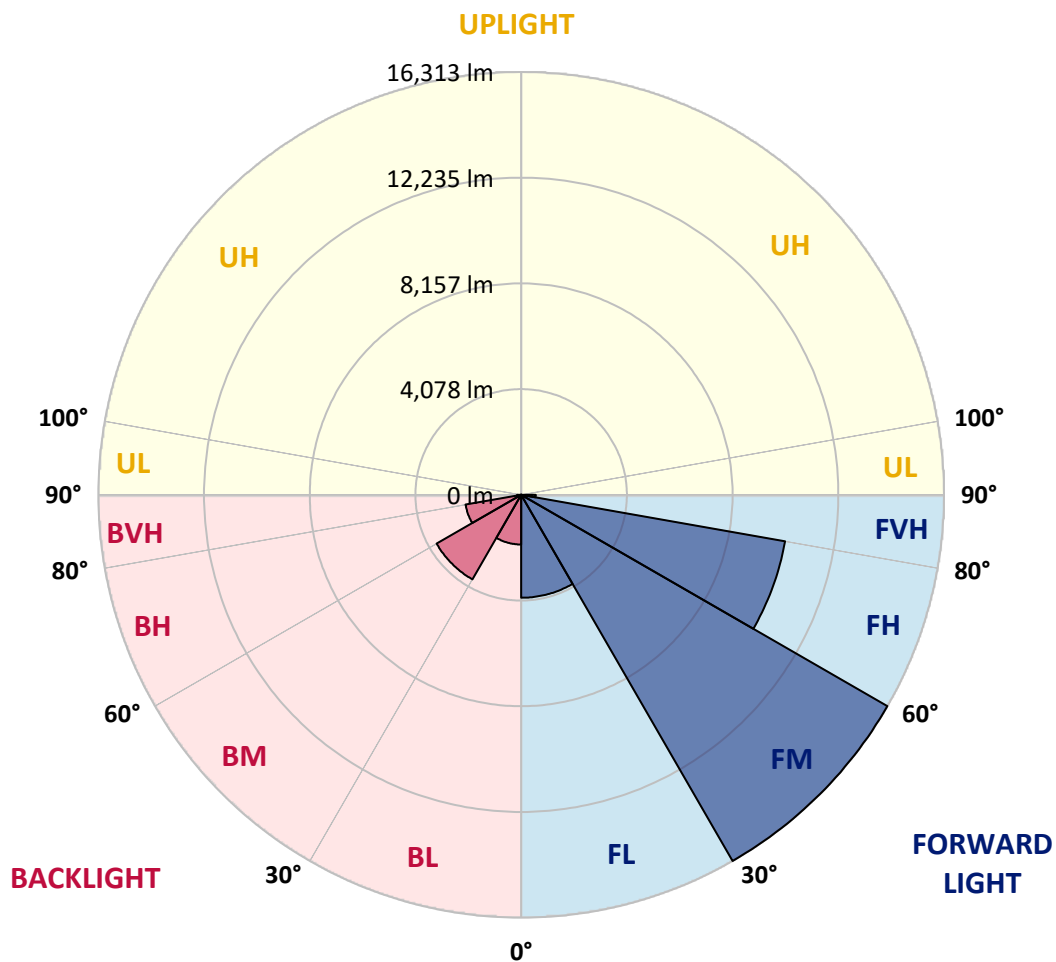
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | | Lumens | % Fixture | Zone Rating/Lumen Limit | | |
|------|-------------|---------|-----------|-------------------------|------|----------|
| | | | | B | U | G |
| FL | (0°-30°) | 3970.3 | 10.1 | | | |
| FM | (30°-60°) | 16313.4 | 41.6 | | | |
| FH | (60°-80°) | 10339.3 | 26.4 | | | G4/12000 |
| FVH | (80°-90°) | 559.9 | 1.4 | | | G4/750 |
| BL | (0°-30°) | 1917.3 | 4.9 | B3/2500 | | |
| BM | (30°-60°) | 3766.8 | 9.6 | B3/5000 | | |
| BH | (60°-80°) | 2180.4 | 5.6 | B3/2500 | | G3/2500 |
| BVH | (80°-90°) | 154.6 | 0.4 | | | G2/225 |
| UL | (90°-100°) | 0.0 | 0.0 | | U0/0 | |
| UH | (100°-180°) | 0.0 | 0.0 | | U0/0 | |

BUG Rating: B3-U0-G4

Type II Short





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CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 15° | 25° | 35° | 45° | 55° | 65° | 70° | 75° | 85° |
|-------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 0° | 6744.2 | 6744.2 | 6744.2 | 6744.2 | 6744.2 | 6744.2 | 6744.2 | 6744.2 | 6744.2 | 6744.2 | 6744.2 |
| 2.5° | 7319.0 | 7270.5 | 7249.7 | 7280.2 | 7076.6 | 7080.8 | 6982.4 | 6967.2 | 6920.1 | 6853.7 | 6780.3 |
| 5° | 7737.2 | 7680.4 | 7651.3 | 7669.3 | 7454.7 | 7417.3 | 7256.6 | 7177.7 | 7084.9 | 7001.8 | 6842.6 |
| 7.5° | 8138.8 | 8080.6 | 8058.5 | 8048.8 | 7789.8 | 7733.0 | 7528.1 | 7388.2 | 7262.2 | 7155.5 | 6939.5 |
| 10° | 8543.2 | 8483.6 | 8437.9 | 8450.4 | 8179.0 | 8077.9 | 7841.1 | 7648.6 | 7486.5 | 7348.0 | 7050.3 |
| 12.5° | 8944.8 | 8872.8 | 8822.9 | 8822.9 | 8555.6 | 8457.3 | 8191.4 | 7944.9 | 7738.6 | 7564.1 | 7190.2 |
| 15° | 9356.1 | 9261.9 | 9250.8 | 9250.8 | 8966.9 | 8847.8 | 8586.1 | 8313.3 | 8059.9 | 7835.5 | 7359.1 |
| 17.5° | 9781.2 | 9662.1 | 9659.4 | 9677.4 | 9417.0 | 9282.7 | 9036.2 | 8781.4 | 8458.7 | 8174.8 | 7565.5 |
| 20° | 10061.0 | 9954.3 | 9929.4 | 9983.4 | 9778.5 | 9691.2 | 9426.7 | 9248.1 | 8937.9 | 8600.0 | 7831.4 |
| 22.5° | 10274.2 | 10209.2 | 10232.7 | 10321.3 | 10221.6 | 10146.8 | 9868.5 | 9707.8 | 9428.1 | 9081.9 | 8190.0 |
| 25° | 10488.9 | 10446.0 | 10500.0 | 10656.5 | 10664.8 | 10685.5 | 10452.9 | 10247.9 | 9987.6 | 9678.8 | 8656.7 |
| 27.5° | 10422.4 | 10410.0 | 10573.4 | 10896.0 | 11073.3 | 11167.5 | 11037.3 | 10965.3 | 10727.1 | 10401.6 | 9243.9 |
| 30° | 10470.9 | 10440.4 | 10637.1 | 11045.6 | 11440.3 | 11713.1 | 11713.1 | 11876.5 | 11772.7 | 11445.8 | 10139.9 |
| 32.5° | 10326.9 | 10270.1 | 10495.8 | 11081.6 | 11760.2 | 12290.6 | 12526.0 | 13104.9 | 13286.3 | 13168.6 | 11916.7 |
| 35° | 9663.5 | 9706.5 | 10148.2 | 10937.6 | 11980.4 | 12855.6 | 13478.8 | 14719.6 | 15277.7 | 15410.7 | 13962.1 |
| 37.5° | 9249.5 | 9267.5 | 9717.5 | 10702.2 | 12057.9 | 13410.9 | 14521.6 | 16583.6 | 17374.4 | 17456.1 | 15756.9 |
| 40° | 8678.9 | 8746.7 | 9250.8 | 10386.4 | 12013.6 | 13880.4 | 15644.7 | 18421.3 | 19300.7 | 19232.9 | 17327.3 |
| 42.5° | 8228.8 | 8248.2 | 8688.6 | 9885.1 | 11819.7 | 14254.3 | 16777.5 | 20090.1 | 21011.0 | 20821.3 | 18879.7 |
| 45° | 7667.9 | 7704.0 | 8120.8 | 9261.9 | 11474.9 | 14444.0 | 17755.2 | 21655.0 | 22498.4 | 22261.6 | 20224.4 |
| 47.5° | 6989.4 | 7147.2 | 7583.5 | 8590.3 | 10890.5 | 14424.7 | 18583.4 | 23009.4 | 23971.8 | 23607.6 | 21481.9 |
| 50° | 5629.4 | 5821.9 | 6694.4 | 7985.1 | 10124.7 | 14153.2 | 19242.6 | 24500.9 | 25324.9 | 24957.9 | 22629.9 |
| 52.5° | 4917.6 | 4955.0 | 5399.6 | 7305.1 | 9227.3 | 13546.7 | 19691.3 | 25733.4 | 26592.0 | 26205.6 | 23733.7 |
| 55° | 4596.3 | 4635.1 | 4859.5 | 6204.2 | 8403.3 | 12472.0 | 19856.1 | 26909.1 | 27670.8 | 27227.6 | 24643.5 |
| 57.5° | 4315.2 | 4327.7 | 4592.2 | 5247.2 | 7618.1 | 11056.7 | 19508.5 | 27889.6 | 28541.9 | 27939.5 | 25275.0 |
| 60° | 3993.9 | 4043.8 | 4304.1 | 4790.2 | 6733.2 | 9412.9 | 18317.5 | 28516.9 | 29133.2 | 28597.3 | 25930.0 |
| 62° | 3813.9 | 3826.4 | 4029.9 | 4506.3 | 6047.7 | 8224.7 | 16834.3 | 28553.0 | 29340.9 | 29001.6 | 26333.0 |
| 62.5° | 3761.3 | 3769.6 | 3962.1 | 4434.3 | 5906.4 | 7989.2 | 16429.9 | 28523.9 | 29328.5 | 29072.3 | 26421.7 |
| 65° | 3459.4 | 3478.8 | 3651.9 | 4093.6 | 5287.4 | 7071.1 | 14535.4 | 28048.9 | 29061.2 | 28953.2 | 26413.3 |
| 67.5° | 3092.4 | 3097.9 | 3282.1 | 3679.6 | 4649.0 | 6208.3 | 12208.9 | 27140.4 | 27752.5 | 27612.6 | 25257.0 |
| 70° | 2528.7 | 2629.8 | 2830.6 | 3181.0 | 3845.7 | 5150.3 | 9286.8 | 24311.1 | 25315.2 | 25453.6 | 23185.3 |
| 72.5° | 1922.2 | 1915.3 | 1985.9 | 2229.6 | 2801.6 | 3956.5 | 6269.2 | 20369.8 | 22696.4 | 23445.6 | 20898.9 |
| 75° | 1186.8 | 1232.5 | 1528.9 | 1724.1 | 2008.0 | 2790.5 | 3930.2 | 14179.5 | 19407.4 | 20702.2 | 18472.6 |
| 77.5° | 922.3 | 930.6 | 1084.3 | 1422.2 | 1645.2 | 1977.6 | 2451.2 | 7726.1 | 12166.0 | 15385.7 | 14387.3 |
| 80° | 702.1 | 717.4 | 818.4 | 891.8 | 1157.7 | 1204.8 | 1635.5 | 3996.7 | 5540.8 | 7760.7 | 9664.9 |
| 82.5° | 423.8 | 447.3 | 541.5 | 584.4 | 638.4 | 603.8 | 879.4 | 2156.2 | 3071.6 | 3971.8 | 4921.8 |
| 85° | 213.3 | 256.2 | 360.1 | 340.7 | 289.4 | 267.3 | 376.7 | 1042.8 | 1467.9 | 1943.0 | 2258.7 |
| 87.5° | 54.0 | 65.1 | 84.5 | 101.1 | 85.9 | 70.6 | 102.5 | 282.5 | 290.8 | 278.4 | 779.7 |
| 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° | 6744.2 | 6744.2 | 6744.2 | 6744.2 | 6744.2 | 6744.2 | 6744.2 | 6744.2 | 6744.2 | 6744.2 | 6744.2 |
| 2.5° | 6755.3 | 6698.5 | 6594.7 | 6535.1 | 6387.0 | 6330.2 | 6223.5 | 6262.3 | 6238.8 | 6215.2 | 6216.6 |
| 5° | 6766.4 | 6663.9 | 6465.9 | 6323.3 | 6108.6 | 5999.2 | 5859.3 | 5837.2 | 5776.2 | 5738.8 | 5743.0 |
| 7.5° | 6789.9 | 6643.2 | 6363.4 | 6136.3 | 5834.4 | 5662.7 | 5475.7 | 5443.9 | 5352.5 | 5310.9 | 5316.5 |
| 10° | 6849.5 | 6676.4 | 6296.9 | 5963.2 | 5622.5 | 5384.3 | 5165.5 | 5094.9 | 5007.6 | 4960.6 | 4957.8 |
| 12.5° | 6940.9 | 6726.2 | 6202.8 | 5831.6 | 5417.6 | 5108.7 | 4856.7 | 4743.1 | 4618.5 | 4576.9 | 4581.1 |
| 15° | 7086.3 | 6789.9 | 6123.8 | 5650.2 | 5169.7 | 4848.4 | 4536.8 | 4399.7 | 4268.1 | 4219.7 | 4215.5 |
| 17.5° | 7263.6 | 6848.1 | 6068.4 | 5436.9 | 4955.0 | 4570.0 | 4295.8 | 4108.9 | 3887.3 | 3855.4 | 3820.8 |
| 20° | 7439.4 | 6964.4 | 6018.6 | 5281.8 | 4700.2 | 4290.3 | 3931.6 | 3740.5 | 3423.4 | 3304.3 | 3261.3 |
| 22.5° | 7695.6 | 7148.6 | 6011.7 | 5097.7 | 4444.0 | 3984.2 | 3500.9 | 3192.1 | 2843.1 | 2640.9 | 2596.6 |
| 25° | 8037.7 | 7350.8 | 6029.7 | 4957.8 | 4157.3 | 3595.1 | 2942.8 | 2496.9 | 2164.5 | 1936.0 | 1888.9 |
| 27.5° | 8482.2 | 7626.4 | 6083.7 | 4804.1 | 3897.0 | 3128.4 | 2316.9 | 1858.5 | 1577.4 | 1386.2 | 1341.9 |
| 30° | 9137.3 | 8088.9 | 6168.1 | 4661.4 | 3517.5 | 2520.4 | 1703.4 | 1339.2 | 1120.3 | 1002.6 | 1001.3 |
| 32.5° | 10666.2 | 9122.0 | 6216.6 | 4484.2 | 3164.4 | 1905.6 | 1225.6 | 969.4 | 794.9 | 750.6 | 788.0 |
| 35° | 12419.4 | 10585.8 | 6590.5 | 4293.1 | 2611.8 | 1401.5 | 875.2 | 689.7 | 617.6 | 628.7 | 649.5 |
| 37.5° | 14036.9 | 11992.8 | 7161.1 | 3982.8 | 2091.1 | 987.4 | 628.7 | 548.4 | 533.2 | 573.3 | 610.7 |
| 40° | 15468.8 | 13208.8 | 7649.9 | 3642.2 | 1479.0 | 689.7 | 504.1 | 506.9 | 491.6 | 509.6 | 522.1 |
| 42.5° | 16873.1 | 14336.0 | 8166.5 | 3183.8 | 986.0 | 509.6 | 455.6 | 480.5 | 462.5 | 465.3 | 447.3 |
| 45° | 18269.0 | 15525.6 | 8389.5 | 2617.4 | 660.6 | 441.8 | 426.5 | 455.6 | 454.2 | 443.2 | 416.8 |
| 47.5° | 19473.8 | 16345.4 | 8672.0 | 1974.8 | 491.6 | 401.6 | 405.8 | 426.5 | 440.4 | 421.0 | 408.5 |
| 50° | 20509.7 | 17215.1 | 8454.5 | 1307.3 | 439.0 | 375.3 | 390.5 | 390.5 | 412.7 | 379.5 | 364.2 |
| 52.5° | 21499.9 | 18080.7 | 7896.4 | 861.4 | 403.0 | 357.3 | 372.5 | 362.8 | 372.5 | 339.3 | 335.1 |
| 55° | 22094.0 | 18528.0 | 7222.0 | 671.7 | 380.8 | 342.1 | 349.0 | 346.2 | 337.9 | 303.3 | 310.2 |
| 57.5° | 22747.6 | 19043.1 | 6382.8 | 563.6 | 371.1 | 324.1 | 325.4 | 321.3 | 296.4 | 272.8 | 274.2 |
| 60° | 23269.7 | 19428.1 | 5485.4 | 497.2 | 360.1 | 314.4 | 295.0 | 288.0 | 253.4 | 239.6 | 241.0 |
| 62° | 23635.3 | 19446.1 | 4703.0 | 462.5 | 346.2 | 307.4 | 277.0 | 261.7 | 223.0 | 211.9 | 210.5 |
| 62.5° | 23675.5 | 19378.3 | 4511.9 | 454.2 | 340.7 | 304.7 | 275.6 | 253.4 | 214.7 | 206.3 | 203.6 |
| 65° | 23525.9 | 18623.5 | 3599.2 | 408.5 | 317.1 | 288.0 | 256.2 | 220.2 | 184.2 | 173.1 | 169.0 |
| 67.5° | 22412.5 | 17271.9 | 2748.9 | 371.1 | 288.0 | 277.0 | 236.8 | 193.9 | 163.4 | 149.6 | 146.8 |
| 70° | 20241.0 | 15442.5 | 1962.3 | 324.1 | 259.0 | 252.0 | 238.2 | 177.3 | 150.9 | 131.6 | 128.8 |
| 72.5° | 17828.6 | 13495.4 | 1335.0 | 288.0 | 229.9 | 207.7 | 175.9 | 167.6 | 141.3 | 116.3 | 113.6 |
| 75° | 15172.5 | 10747.9 | 950.0 | 247.9 | 198.0 | 175.9 | 148.2 | 155.1 | 132.9 | 103.9 | 101.1 |
| 77.5° | 11641.1 | 7904.8 | 704.9 | 203.6 | 153.7 | 142.6 | 124.6 | 137.1 | 120.5 | 94.2 | 92.8 |
| 80° | 7949.1 | 5459.1 | 501.3 | 153.7 | 101.1 | 101.1 | 105.2 | 117.7 | 106.6 | 84.5 | 83.1 |
| 82.5° | 4468.9 | 2873.6 | 296.4 | 110.8 | 69.2 | 69.2 | 81.7 | 95.6 | 88.6 | 73.4 | 72.0 |
| 85° | 1851.6 | 1040.0 | 156.5 | 69.2 | 45.7 | 47.1 | 58.2 | 70.6 | 69.2 | 58.2 | 56.8 |
| 87.5° | 644.0 | 261.7 | 45.7 | 23.5 | 19.4 | 20.8 | 23.5 | 33.2 | 33.2 | 29.1 | 30.5 |
| 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)