

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: P233972

Luminaire Tested: **CTN-8-4-D-E1-T1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P233972  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1707-171-24)  
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-T1  
Description: CELESTEON HIGH MAST LUMINAIRE  
(8) 70 CRI, 4000K LEDS AND TYPE I OPTICS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 46220 lumens  
Efficiency: N/A  
Efficacy: 142.2 lumens/watt  
Luminous Opening: Circular (Dia: 2.08' x H: 0')  
IES Classification: Type I - Short - Semi-Cutoff  
BUG Rating: B5 - U0 - G5

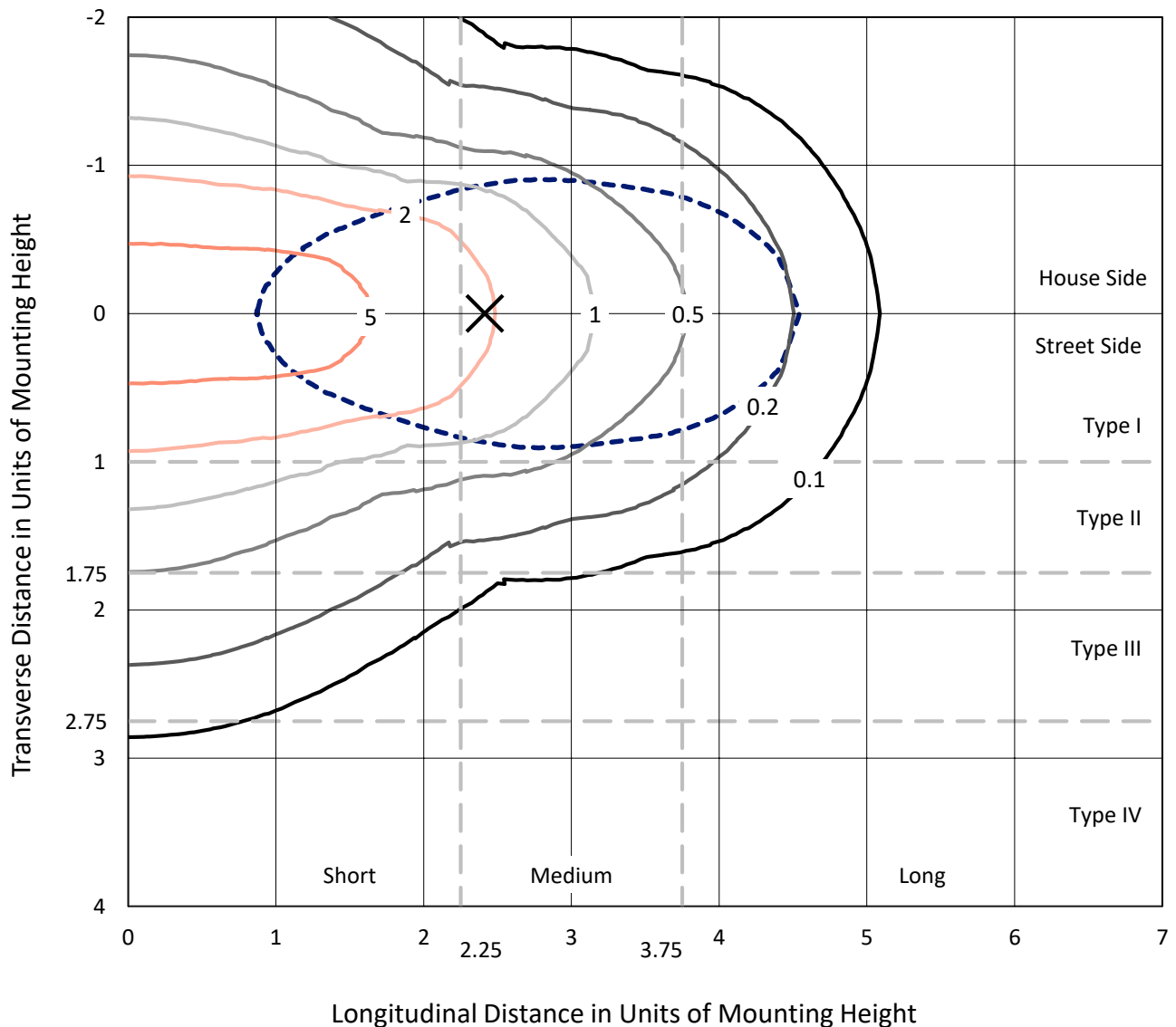
Input Watts (W): 325  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Iso-Footcandle Lines of Horizontal Illumination

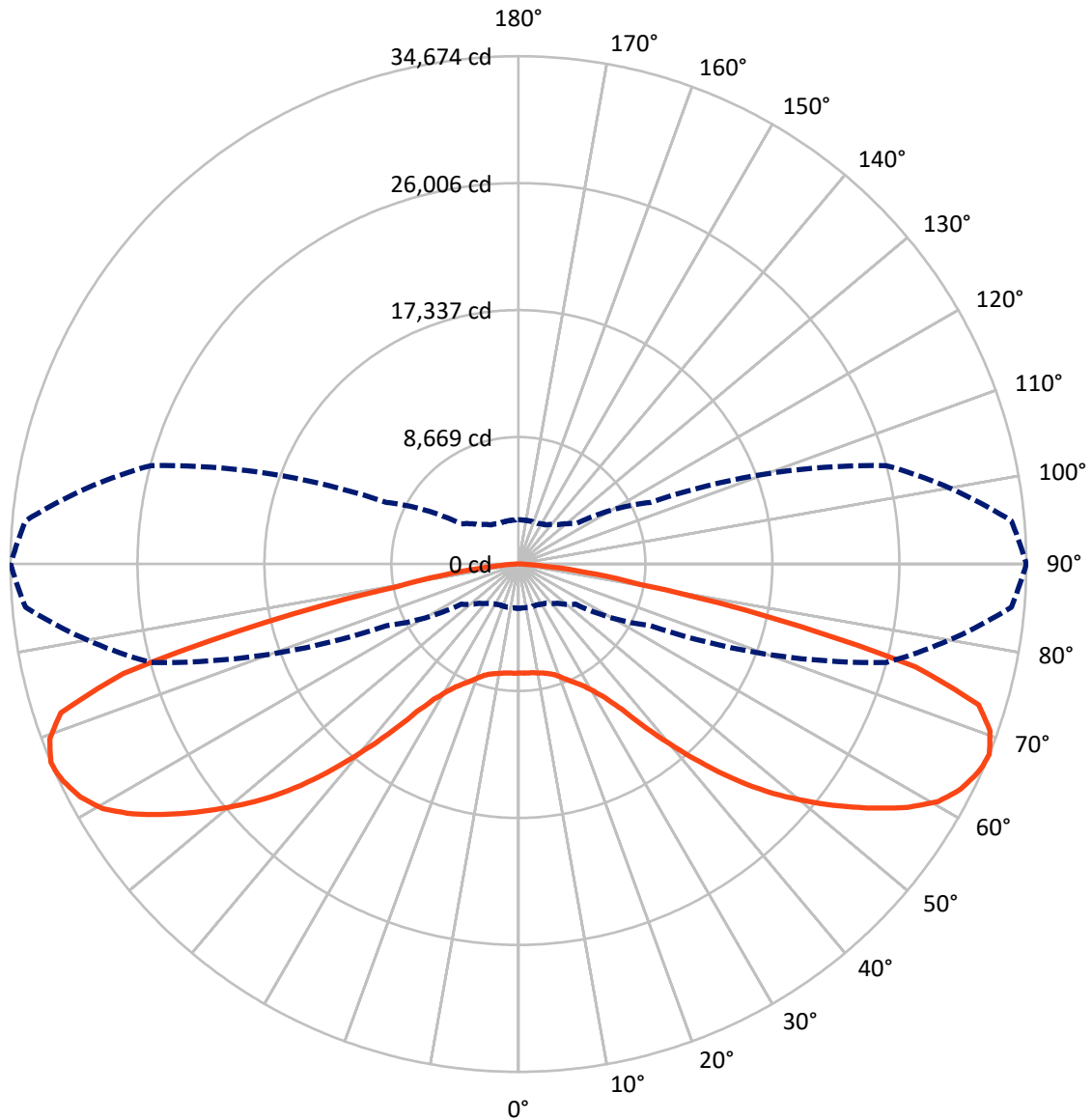
× Max cd  
 - - - 1/2 Max cd



Based on 30 foot mounting height. Maximum calculated value = 8.3 fc  
 Type I - Short - Semi-Cutoff

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### Luminous Intensity Polar Plot



— Vertical Plane Through 90-Deg Lateral    - - - Horizontal Cone Through 67.5-Deg Vertical

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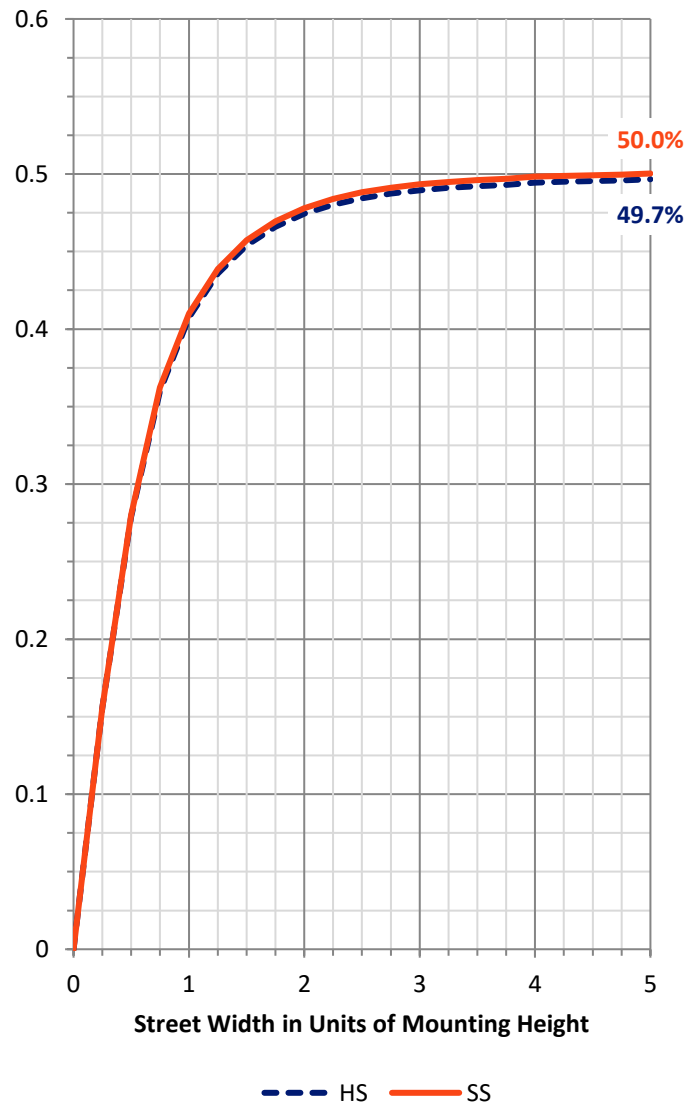
**FLUX DISTRIBUTION:**

|                    |           | Downward | Upward | Total   |
|--------------------|-----------|----------|--------|---------|
| <b>House Side</b>  | Lumens    | 23110.0  | 0.0    | 23110.0 |
|                    | % Fixture | 50.0     | 0.0    | 50.0    |
| <b>Street Side</b> | Lumens    | 23110.0  | 0.0    | 23110.0 |
|                    | % Fixture | 50.0     | 0.0    | 50.0    |
| <b>Total</b>       | Lumens    | 46220.0  | 0.0    | 46220.0 |
|                    | % Fixture | 100.0    | 0.0    | 100.0   |

**Coefficient of Utilization**

**ZONAL LUMENS:**

| Zone      | Lumens  | % Fixture |
|-----------|---------|-----------|
| 0°-10°    | 707.5   | 1.5       |
| 10°-20°   | 2104.8  | 4.6       |
| 20°-30°   | 3482.7  | 7.5       |
| 30°-40°   | 5102.7  | 11.0      |
| 40°-50°   | 7507.1  | 16.2      |
| 50°-60°   | 9735.0  | 21.1      |
| 60°-70°   | 10346.3 | 22.4      |
| 70°-80°   | 6386.8  | 13.8      |
| 80°-90°   | 847.2   | 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°    | 46220.0 | 100.0     |
| 0°-180°   | 46220.0 | 100.0     |



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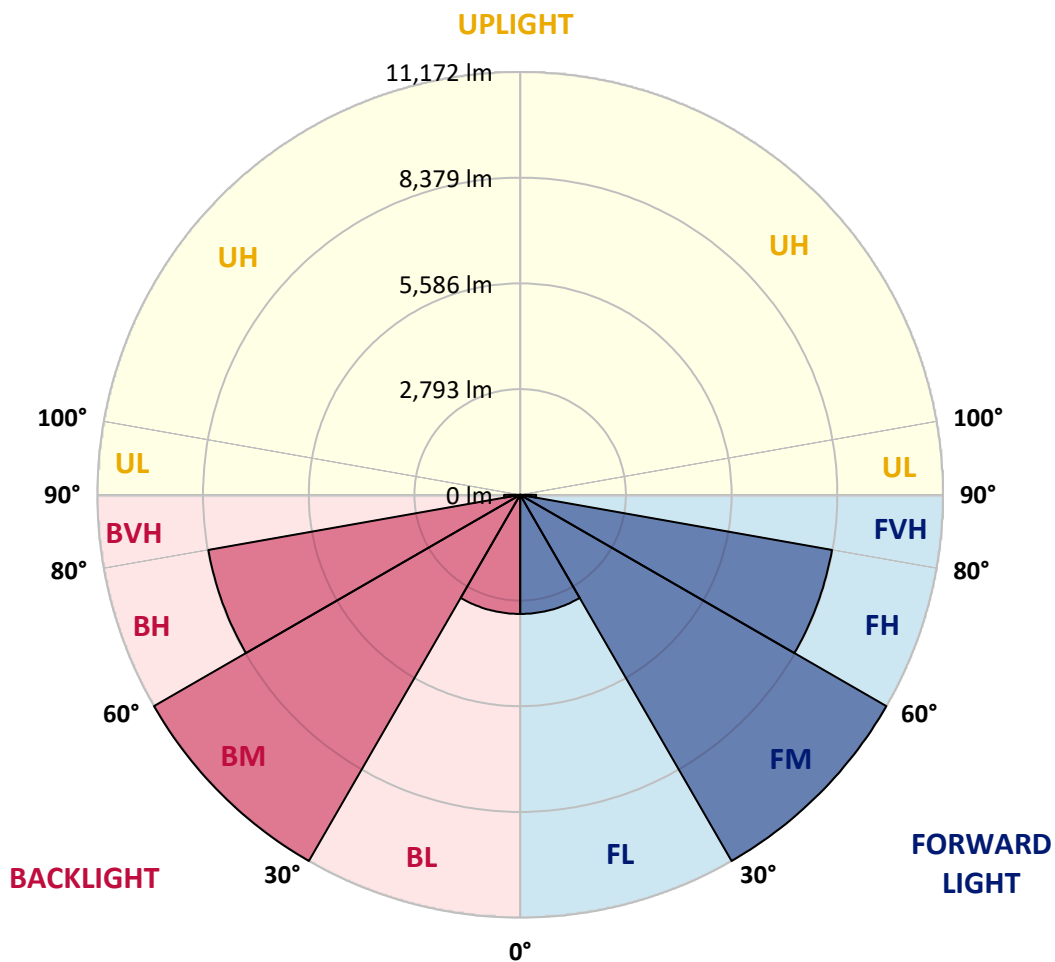
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

| Zone |             | Lumens  | % Fixture | Zone Rating/Lumen Limit |      |          |
|------|-------------|---------|-----------|-------------------------|------|----------|
|      |             |         |           | B                       | U    | G        |
| FL   | (0°-30°)    | 3147.5  | 6.8       |                         |      |          |
| FM   | (30°-60°)   | 11172.4 | 24.2      |                         |      |          |
| FH   | (60°-80°)   | 8366.5  | 18.1      |                         |      | G4/12000 |
| FVH  | (80°-90°)   | 423.6   | 0.9       |                         |      | G3/500   |
| BL   | (0°-30°)    | 3147.5  | 6.8       | B4/5000                 |      |          |
| BM   | (30°-60°)   | 11172.4 | 24.2      | B5                      |      |          |
| BH   | (60°-80°)   | 8366.5  | 18.1      | B5                      |      | G5       |
| BVH  | (80°-90°)   | 423.6   | 0.9       |                         |      | G3/500   |
| UL   | (90°-100°)  | 0.0     | 0.0       |                         | U0/0 |          |
| UH   | (100°-180°) | 0.0     | 0.0       |                         | U0/0 |          |

**BUG Rating: B5-U0-G5**

Type I Short





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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 5°     | 15°    | 25°    | 35°    | 45°    | 55°    | 65°     | 75°     | 85°     | 90°     |
|-------|--------|--------|--------|--------|--------|--------|--------|---------|---------|---------|---------|
| 0°    | 7443.4 | 7443.4 | 7443.4 | 7443.4 | 7443.4 | 7443.4 | 7443.4 | 7443.4  | 7443.4  | 7443.4  | 7443.4  |
| 2.5°  | 7464.2 | 7440.6 | 7450.3 | 7484.9 | 7358.9 | 7421.2 | 7399.1 | 7454.5  | 7425.4  | 7450.3  | 7462.8  |
| 5°    | 7411.5 | 7382.5 | 7396.3 | 7461.4 | 7346.5 | 7410.2 | 7393.5 | 7455.9  | 7418.5  | 7453.1  | 7466.9  |
| 7.5°  | 7365.8 | 7335.4 | 7360.3 | 7414.3 | 7327.1 | 7397.7 | 7383.8 | 7468.3  | 7437.8  | 7482.2  | 7496.0  |
| 10°   | 7336.8 | 7303.5 | 7327.1 | 7386.6 | 7293.8 | 7404.6 | 7392.1 | 7504.3  | 7489.1  | 7550.0  | 7566.6  |
| 12.5° | 7264.7 | 7230.1 | 7246.7 | 7325.7 | 7284.1 | 7399.1 | 7429.5 | 7558.3  | 7554.2  | 7627.6  | 7645.6  |
| 15°   | 7136.0 | 7101.3 | 7123.5 | 7228.7 | 7244.0 | 7403.2 | 7497.4 | 7649.7  | 7674.7  | 7748.0  | 7763.3  |
| 17.5° | 6973.9 | 6949.0 | 6982.2 | 7122.1 | 7217.7 | 7460.0 | 7595.7 | 7789.6  | 7850.5  | 7925.3  | 7946.1  |
| 20°   | 6752.4 | 6738.5 | 6798.1 | 6989.2 | 7172.0 | 7501.6 | 7713.4 | 7986.2  | 8097.0  | 8218.9  | 8234.1  |
| 22.5° | 6450.5 | 6433.9 | 6558.5 | 6827.1 | 7090.3 | 7511.2 | 7828.4 | 8189.8  | 8394.8  | 8551.2  | 8591.4  |
| 25°   | 6111.2 | 6105.7 | 6276.0 | 6629.1 | 6979.5 | 7504.3 | 7940.5 | 8407.2  | 8720.2  | 8926.5  | 8970.8  |
| 27.5° | 5777.5 | 5794.1 | 6000.4 | 6417.2 | 6888.1 | 7519.6 | 8069.3 | 8685.6  | 9127.3  | 9384.9  | 9404.3  |
| 30°   | 5493.6 | 5507.4 | 5730.4 | 6208.1 | 6800.8 | 7537.6 | 8228.6 | 9017.9  | 9634.2  | 9981.8  | 10038.5 |
| 32.5° | 5226.3 | 5258.1 | 5485.3 | 5981.0 | 6703.9 | 7572.2 | 8434.9 | 9451.4  | 10255.9 | 10804.3 | 10875.0 |
| 35°   | 5006.1 | 5033.8 | 5255.4 | 5749.8 | 6550.2 | 7599.9 | 8707.7 | 9999.8  | 11182.4 | 12095.0 | 12204.4 |
| 37.5° | 4810.9 | 4844.1 | 5035.2 | 5536.5 | 6367.4 | 7609.6 | 8979.1 | 10675.5 | 12437.0 | 13889.7 | 14230.4 |
| 40°   | 4669.6 | 4695.9 | 4860.7 | 5323.2 | 6170.7 | 7565.3 | 9289.3 | 11431.7 | 13846.8 | 16032.0 | 16405.9 |
| 42.5° | 4553.3 | 4575.4 | 4711.1 | 5114.1 | 5949.2 | 7478.0 | 9578.8 | 12185.0 | 15336.8 | 18301.7 | 18789.2 |
| 45°   | 4435.6 | 4441.1 | 4571.3 | 4934.1 | 5724.8 | 7339.5 | 9796.2 | 12906.5 | 16905.8 | 20617.1 | 21187.7 |
| 47.5° | 4330.3 | 4323.4 | 4425.9 | 4756.8 | 5483.9 | 7106.9 | 9880.7 | 13504.7 | 18430.5 | 22787.2 | 23410.3 |
| 50°   | 4232.0 | 4202.9 | 4291.5 | 4587.9 | 5249.8 | 6773.1 | 9774.0 | 13918.8 | 20034.1 | 24883.8 | 25436.3 |
| 52.5° | 4085.2 | 4071.4 | 4155.8 | 4421.7 | 5015.8 | 6374.3 | 9422.3 | 14137.6 | 21744.4 | 26869.6 | 27447.1 |
| 55°   | 3953.7 | 3944.0 | 4031.2 | 4252.8 | 4785.9 | 5968.6 | 8815.7 | 14078.0 | 23429.7 | 28784.8 | 29424.6 |
| 57.5° | 3808.2 | 3801.3 | 3883.0 | 4068.6 | 4532.5 | 5591.9 | 8065.2 | 13693.1 | 24935.0 | 30438.3 | 31342.5 |
| 60°   | 3665.6 | 3669.8 | 3722.4 | 3881.6 | 4274.9 | 5176.4 | 7209.4 | 13022.8 | 26135.6 | 31935.3 | 32922.6 |
| 62.5° | 3499.4 | 3495.3 | 3534.1 | 3667.0 | 3980.0 | 4727.8 | 6366.0 | 12093.6 | 26839.1 | 33242.5 | 33874.0 |
| 65°   | 3275.1 | 3259.9 | 3304.2 | 3388.6 | 3622.7 | 4268.0 | 5535.1 | 10969.1 | 26857.1 | 33892.0 | 34429.3 |
| 66°   | 3179.5 | 3162.9 | 3203.1 | 3262.6 | 3482.8 | 4082.4 | 5229.1 | 10492.8 | 26581.6 | 33911.4 | 34578.9 |
| 67.5° | 3031.4 | 3012.0 | 3038.3 | 3066.0 | 3264.0 | 3786.1 | 4780.4 | 9952.7  | 25977.8 | 33789.5 | 34674.4 |
| 70°   | 2663.0 | 2665.8 | 2693.5 | 2683.8 | 2784.9 | 3126.9 | 3948.1 | 8950.1  | 23065.5 | 33296.5 | 34162.0 |
| 72.5° | 2073.1 | 2049.5 | 2009.4 | 1970.6 | 2019.1 | 2319.6 | 2989.8 | 7511.2  | 18887.5 | 31170.8 | 32853.4 |
| 75°   | 1337.7 | 1333.6 | 1332.2 | 1379.3 | 1386.2 | 1589.8 | 2309.9 | 6060.0  | 14723.4 | 25580.3 | 28002.4 |
| 77.5° | 836.4  | 829.5  | 889.1  | 1004.0 | 1022.0 | 1027.5 | 1515.0 | 4605.9  | 10643.7 | 16368.5 | 17638.4 |
| 80°   | 599.6  | 599.6  | 603.8  | 619.0  | 716.0  | 731.2  | 1046.9 | 2891.5  | 6053.0  | 7979.3  | 8383.7  |
| 82.5° | 454.2  | 447.3  | 448.7  | 455.6  | 463.9  | 498.5  | 630.1  | 1283.7  | 2417.9  | 4043.7  | 4575.4  |
| 85°   | 328.2  | 337.9  | 354.5  | 342.0  | 308.8  | 313.0  | 357.3  | 441.8   | 929.2   | 1566.2  | 1693.6  |
| 87.5° | 119.1  | 137.1  | 141.3  | 146.8  | 141.3  | 142.6  | 146.8  | 138.5   | 188.3   | 386.4   | 445.9   |
| 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)