

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: P299743

Luminaire Tested: **GLNA-AF-09-LED-E1-5MQ-7027-600**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P299743  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24142)  
Test Lab: INNOVATION CENTER P2  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: MCGRAW-EDISON  
Catalog Number: GLNA-AF-09-LED-E1-5MQ-7027-600  
Description: GALLEONNAIRE AREA AND ROADWAY LUMINAIRE  
(9) 70 CRI, 2700K CCT 600mA LIGHTSQUARE WITH 16 LEDS EACH AND Type III  
w/Spill Control OPTICS  
Light Source: -  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 31887.1 lumens  
Efficiency: N/A  
Efficacy: 110.0 lumens/watt  
Luminous Opening: Rectangular (W 2.5' x L: 1' x H: 0')  
IES Classification: Type V - Short - Full Cutoff  
BUG Rating: B5 - U0 - G4

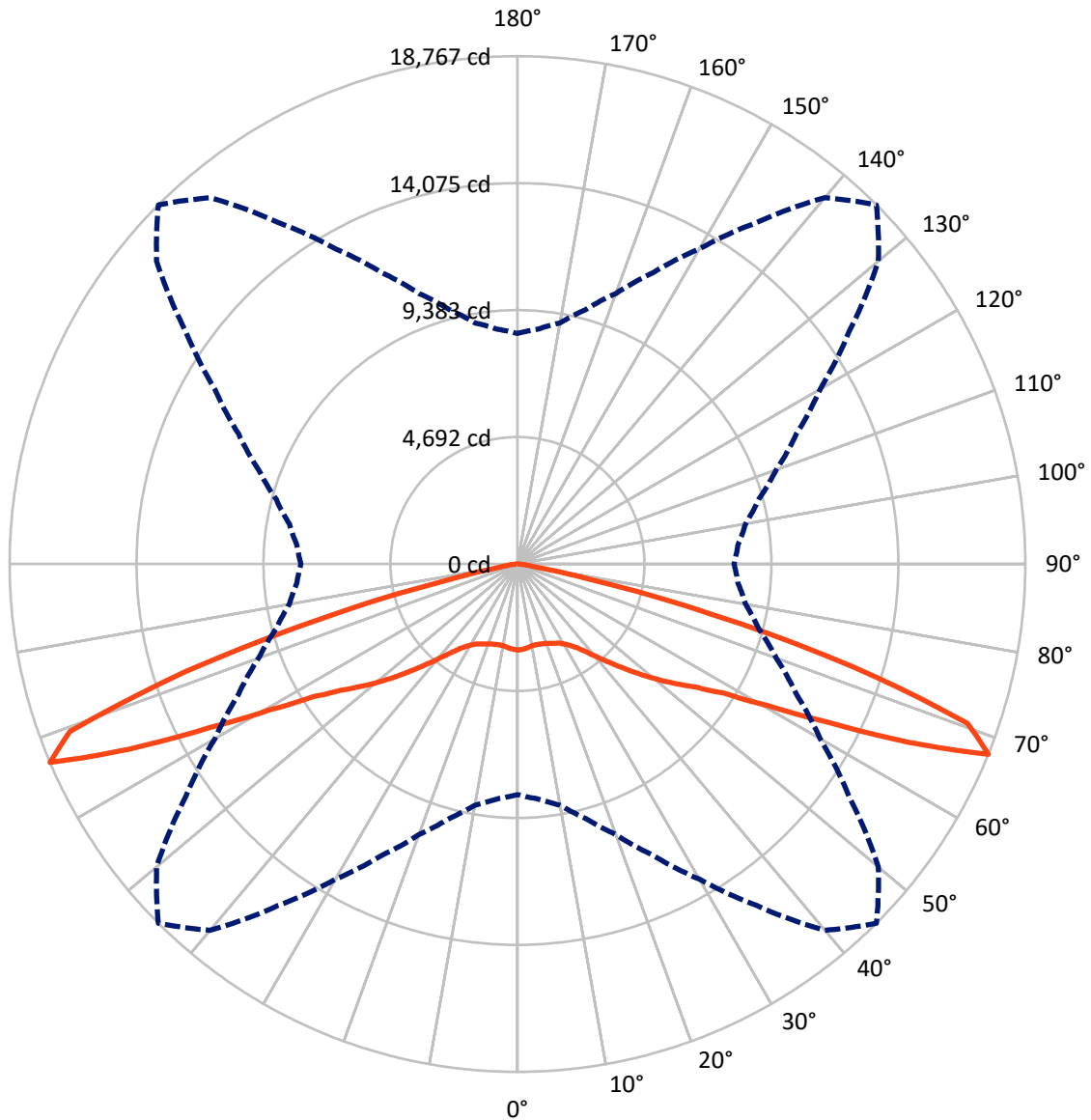
Input Watts (W): 290  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT





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### Luminous Intensity Polar Plot



— Vertical Plane Through 45-Deg Lateral    - - - Horizontal Cone Through 67.5-Deg Vertical

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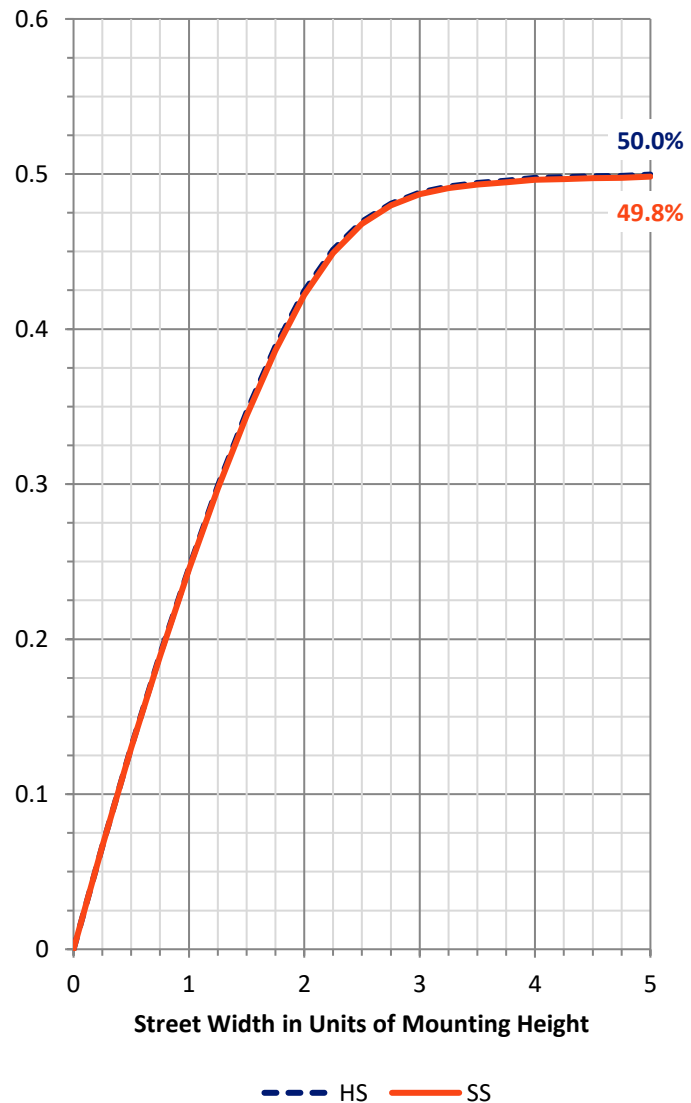
**FLUX DISTRIBUTION:**

|                    |           | Downward | Upward | Total   |
|--------------------|-----------|----------|--------|---------|
| <b>House Side</b>  | Lumens    | 15943.5  | 0.0    | 15943.5 |
|                    | % Fixture | 50.0     | 0.0    | 50.0    |
| <b>Street Side</b> | Lumens    | 15943.5  | 0.0    | 15943.5 |
|                    | % Fixture | 50.0     | 0.0    | 50.0    |
| <b>Total</b>       | Lumens    | 31887.1  | 0.0    | 31887.1 |
|                    | % Fixture | 100.0    | 0.0    | 100.0   |

**Coefficient of Utilization**

**ZONAL LUMENS:**

| Zone      | Lumens  | % Fixture |
|-----------|---------|-----------|
| 0°-10°    | 297.4   | 0.9       |
| 10°-20°   | 863.0   | 2.7       |
| 20°-30°   | 1467.2  | 4.6       |
| 30°-40°   | 2398.4  | 7.5       |
| 40°-50°   | 4281.5  | 13.4      |
| 50°-60°   | 7218.7  | 22.6      |
| 60°-70°   | 11202.4 | 35.1      |
| 70°-80°   | 3936.0  | 12.3      |
| 80°-90°   | 222.4   | 0.7       |
| 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°    | 31887.1 | 100.0     |
| 0°-180°   | 31887.1 | 100.0     |



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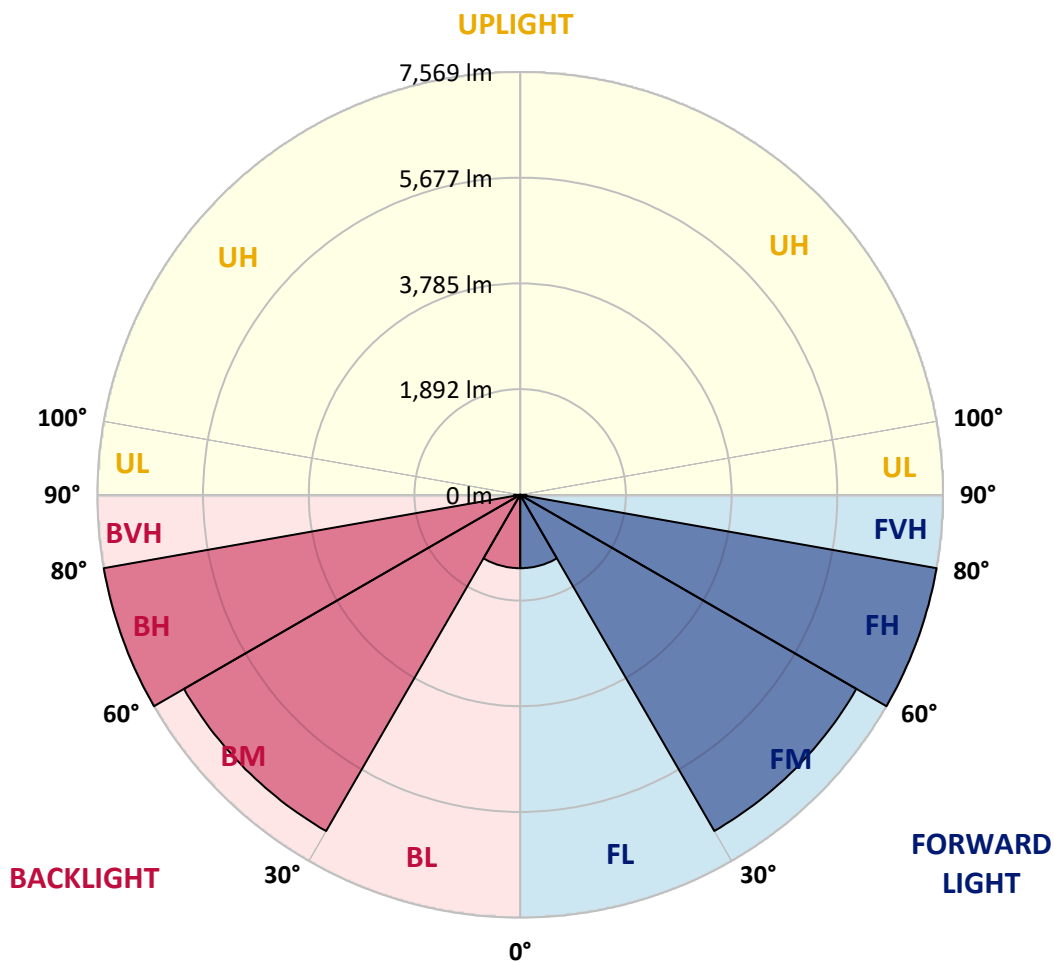
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

| Zone |             | Lumens | % Fixture | Zone Rating/Lumen Limit |      |          |
|------|-------------|--------|-----------|-------------------------|------|----------|
|      |             |        |           | B                       | U    | G        |
| FL   | (0°-30°)    | 1313.8 | 4.1       |                         |      |          |
| FM   | (30°-60°)   | 6949.3 | 21.8      |                         |      |          |
| FH   | (60°-80°)   | 7569.2 | 23.7      |                         |      | G4/12000 |
| FVH  | (80°-90°)   | 111.2  | 0.3       |                         |      | G2/225   |
| BL   | (0°-30°)    | 1313.8 | 4.1       | B3/2500                 |      |          |
| BM   | (30°-60°)   | 6949.3 | 21.8      | B4/8500                 |      |          |
| BH   | (60°-80°)   | 7569.2 | 23.7      | B5                      |      | G4/12000 |
| BVH  | (80°-90°)   | 111.2  | 0.3       |                         |      | G2/225   |
| UL   | (90°-100°)  | 0.0    | 0.0       |                         | U0/0 |          |
| UH   | (100°-180°) | 0.0    | 0.0       |                         | U0/0 |          |

**BUG Rating: B5-U0-G4**

Type V Short





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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 5°     | 10°     | 15°     | 20°     | 25°     | 30°     | 35°     | 40°     | 45°     | 50°     |
|-------|--------|--------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 0°    | 3177.7 | 3177.7 | 3177.7  | 3177.7  | 3177.7  | 3177.7  | 3177.7  | 3177.7  | 3177.7  | 3177.7  | 3177.7  |
| 2.5°  | 3165.9 | 3168.9 | 3168.9  | 3168.9  | 3167.4  | 3167.4  | 3164.5  | 3167.4  | 3165.9  | 3161.6  | 3163.0  |
| 5°    | 3139.6 | 3142.5 | 3142.5  | 3141.0  | 3145.4  | 3144.0  | 3139.6  | 3142.5  | 3141.0  | 3138.1  | 3139.6  |
| 7.5°  | 3101.4 | 3105.8 | 3105.8  | 3104.4  | 3108.8  | 3107.3  | 3104.4  | 3105.8  | 3105.8  | 3101.4  | 3101.4  |
| 10°   | 3058.9 | 3061.8 | 3061.8  | 3060.4  | 3067.7  | 3067.7  | 3066.2  | 3070.6  | 3072.1  | 3067.7  | 3064.8  |
| 12.5° | 3019.3 | 3023.7 | 3023.7  | 3029.6  | 3036.9  | 3039.8  | 3047.2  | 3053.0  | 3058.9  | 3057.4  | 3051.6  |
| 15°   | 2995.8 | 2998.8 | 3004.6  | 3012.0  | 3023.7  | 3034.0  | 3045.7  | 3058.9  | 3070.6  | 3073.6  | 3064.8  |
| 17.5° | 2981.2 | 2985.6 | 2994.4  | 3004.6  | 3020.8  | 3038.4  | 3056.0  | 3073.6  | 3089.7  | 3095.6  | 3085.3  |
| 20°   | 2976.8 | 2979.7 | 2988.5  | 3006.1  | 3028.1  | 3054.5  | 3079.4  | 3100.0  | 3122.0  | 3129.3  | 3122.0  |
| 22.5° | 2985.6 | 2991.4 | 3001.7  | 3022.2  | 3051.6  | 3085.3  | 3114.6  | 3142.5  | 3170.3  | 3183.5  | 3173.3  |
| 25°   | 3025.2 | 3031.0 | 3044.2  | 3070.6  | 3102.9  | 3138.1  | 3171.8  | 3204.1  | 3229.0  | 3242.2  | 3234.9  |
| 27.5° | 3098.5 | 3105.8 | 3122.0  | 3148.4  | 3183.5  | 3221.7  | 3258.3  | 3284.7  | 3305.3  | 3309.7  | 3300.9  |
| 30°   | 3208.5 | 3224.6 | 3243.7  | 3273.0  | 3314.1  | 3346.3  | 3383.0  | 3406.4  | 3431.4  | 3431.4  | 3424.0  |
| 32.5° | 3380.0 | 3396.2 | 3416.7  | 3444.6  | 3476.8  | 3512.0  | 3544.3  | 3564.8  | 3591.2  | 3592.7  | 3575.1  |
| 35°   | 3636.7 | 3644.0 | 3661.6  | 3679.2  | 3708.5  | 3739.3  | 3767.2  | 3780.4  | 3802.4  | 3803.8  | 3787.7  |
| 37.5° | 3975.4 | 3976.9 | 3988.6  | 3994.5  | 4020.9  | 4054.6  | 4081.0  | 4089.8  | 4110.3  | 4107.4  | 4091.2  |
| 40°   | 4369.9 | 4377.2 | 4381.6  | 4390.4  | 4418.3  | 4450.5  | 4478.4  | 4482.8  | 4504.8  | 4500.4  | 4479.8  |
| 42.5° | 4825.9 | 4828.8 | 4853.8  | 4867.0  | 4893.4  | 4909.5  | 4944.7  | 4949.1  | 4975.5  | 4963.8  | 4940.3  |
| 45°   | 5337.7 | 5364.1 | 5387.5  | 5413.9  | 5441.8  | 5460.9  | 5488.7  | 5482.9  | 5500.5  | 5482.9  | 5469.7  |
| 47.5° | 5875.8 | 5894.9 | 5947.7  | 5988.8  | 6034.2  | 6050.4  | 6089.9  | 6072.3  | 6089.9  | 6065.0  | 6060.6  |
| 50°   | 6468.3 | 6502.0 | 6547.5  | 6594.4  | 6642.8  | 6669.2  | 6720.5  | 6698.5  | 6722.0  | 6698.5  | 6685.3  |
| 52.5° | 7051.9 | 7060.7 | 7160.4  | 7229.3  | 7296.8  | 7327.6  | 7358.4  | 7348.1  | 7349.6  | 7348.1  | 7334.9  |
| 55°   | 7606.2 | 7626.7 | 7726.4  | 7820.3  | 7937.6  | 8024.1  | 8076.9  | 8071.0  | 8057.8  | 8044.6  | 8022.7  |
| 57.5° | 8230.9 | 8251.4 | 8365.8  | 8481.6  | 8615.1  | 8738.3  | 8845.3  | 8955.3  | 8997.8  | 9009.5  | 8961.1  |
| 60°   | 9075.5 | 9074.1 | 9226.6  | 9367.3  | 9558.0  | 9741.3  | 9975.9  | 10214.9 | 10489.1 | 10616.7 | 10448.1 |
| 62.5° | 9934.8 | 9970.0 | 10190.0 | 10439.3 | 10832.3 | 11215.0 | 11647.6 | 12072.8 | 12506.9 | 12860.3 | 12484.9 |
| 65°   | 9832.2 | 9967.1 | 10294.1 | 10858.7 | 11584.5 | 12446.8 | 13379.4 | 14366.3 | 15257.9 | 15870.8 | 15183.1 |
| 67.5° | 8521.2 | 8713.3 | 9046.2  | 9732.5  | 10640.2 | 11883.7 | 13449.8 | 15401.6 | 17670.1 | 18766.9 | 17407.6 |
| 70°   | 6176.5 | 6393.5 | 6742.5  | 7412.6  | 8311.5  | 9493.4  | 11194.5 | 13537.8 | 16540.9 | 17646.6 | 16149.4 |
| 72.5° | 3073.6 | 3190.9 | 3406.4  | 3833.2  | 4513.6  | 5472.6  | 7015.2  | 9267.6  | 11924.7 | 12939.5 | 11571.3 |
| 75°   | 1044.1 | 1098.3 | 1135.0  | 1274.3  | 1489.9  | 1866.7  | 2633.6  | 4051.7  | 6180.9  | 7409.7  | 6092.9  |
| 77.5° | 602.7  | 604.2  | 629.1   | 654.0   | 690.7   | 731.7   | 834.4   | 1095.4  | 1894.6  | 2690.8  | 1960.6  |
| 80°   | 390.1  | 388.6  | 409.1   | 428.2   | 453.1   | 473.6   | 479.5   | 507.4   | 585.1   | 693.6   | 620.3   |
| 82.5° | 202.4  | 227.3  | 272.7   | 297.7   | 344.6   | 353.4   | 341.7   | 331.4   | 350.5   | 363.7   | 372.5   |
| 85°   | 111.4  | 96.8   | 145.2   | 187.7   | 208.2   | 211.2   | 211.2   | 199.4   | 206.8   | 202.4   | 220.0   |
| 87.5° | 51.3   | 46.9   | 57.2    | 92.4    | 98.2    | 83.6    | 88.0    | 77.7    | 55.7    | 54.3    | 61.6    |
| 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):**

|       | 55°     | 60°     | 65°     | 70°     | 75°     | 80°     | 85°    | 90°    |
|-------|---------|---------|---------|---------|---------|---------|--------|--------|
| 0°    | 3177.7  | 3177.7  | 3177.7  | 3177.7  | 3177.7  | 3177.7  | 3177.7 | 3177.7 |
| 2.5°  | 3163.0  | 3164.5  | 3164.5  | 3168.9  | 3170.3  | 3173.3  | 3176.2 | 3177.7 |
| 5°    | 3138.1  | 3142.5  | 3139.6  | 3144.0  | 3144.0  | 3146.9  | 3146.9 | 3148.4 |
| 7.5°  | 3101.4  | 3105.8  | 3105.8  | 3105.8  | 3104.4  | 3108.8  | 3108.8 | 3108.8 |
| 10°   | 3063.3  | 3066.2  | 3064.8  | 3061.8  | 3058.9  | 3063.3  | 3061.8 | 3060.4 |
| 12.5° | 3051.6  | 3044.2  | 3038.4  | 3035.4  | 3029.6  | 3031.0  | 3026.6 | 3026.6 |
| 15°   | 3058.9  | 3045.7  | 3035.4  | 3031.0  | 3025.2  | 3022.2  | 3019.3 | 3020.8 |
| 17.5° | 3078.0  | 3061.8  | 3048.6  | 3041.3  | 3034.0  | 3029.6  | 3023.7 | 3025.2 |
| 20°   | 3111.7  | 3092.6  | 3073.6  | 3058.9  | 3045.7  | 3038.4  | 3034.0 | 3032.5 |
| 22.5° | 3161.6  | 3133.7  | 3105.8  | 3083.8  | 3066.2  | 3056.0  | 3051.6 | 3048.6 |
| 25°   | 3218.7  | 3187.9  | 3155.7  | 3130.8  | 3113.2  | 3100.0  | 3091.2 | 3091.2 |
| 27.5° | 3290.6  | 3265.7  | 3236.3  | 3207.0  | 3190.9  | 3177.7  | 3171.8 | 3168.9 |
| 30°   | 3410.8  | 3387.4  | 3363.9  | 3336.1  | 3315.5  | 3302.3  | 3292.1 | 3283.3 |
| 32.5° | 3564.8  | 3545.7  | 3526.7  | 3506.2  | 3487.1  | 3469.5  | 3453.4 | 3446.0 |
| 35°   | 3781.8  | 3767.2  | 3754.0  | 3730.5  | 3723.2  | 3712.9  | 3704.1 | 3696.8 |
| 37.5° | 4081.0  | 4075.1  | 4075.1  | 4050.2  | 4044.3  | 4039.9  | 4031.1 | 4032.6 |
| 40°   | 4474.0  | 4479.8  | 4472.5  | 4463.7  | 4459.3  | 4447.6  | 4447.6 | 4457.8 |
| 42.5° | 4938.8  | 4943.2  | 4959.4  | 4944.7  | 4960.8  | 4946.2  | 4937.4 | 4944.7 |
| 45°   | 5478.5  | 5494.6  | 5526.8  | 5512.2  | 5522.4  | 5497.5  | 5466.7 | 5468.2 |
| 47.5° | 6084.1  | 6098.7  | 6111.9  | 6101.7  | 6103.1  | 6062.1  | 6021.0 | 6010.8 |
| 50°   | 6713.2  | 6719.0  | 6726.4  | 6711.7  | 6714.6  | 6669.2  | 6622.2 | 6623.7 |
| 52.5° | 7334.9  | 7362.8  | 7392.1  | 7352.5  | 7343.7  | 7292.4  | 7226.4 | 7200.0 |
| 55°   | 8046.1  | 8085.7  | 8052.0  | 7983.1  | 7914.1  | 7845.2  | 7758.7 | 7744.0 |
| 57.5° | 8923.0  | 8855.6  | 8750.0  | 8619.5  | 8524.2  | 8427.4  | 8339.4 | 8302.7 |
| 60°   | 10143.1 | 9889.4  | 9698.7  | 9505.2  | 9383.5  | 9264.7  | 9148.8 | 9131.2 |
| 62.5° | 11867.5 | 11429.1 | 11049.3 | 10649.0 | 10322.0 | 10066.8 | 9863.0 | 9805.8 |
| 65°   | 14029.0 | 12992.3 | 12093.4 | 11254.6 | 10525.8 | 9975.9  | 9629.8 | 9477.3 |
| 67.5° | 14958.7 | 12911.6 | 11370.4 | 10179.7 | 9226.6  | 8560.8  | 8186.9 | 8000.7 |
| 70°   | 13144.8 | 10707.6 | 9031.5  | 7839.4  | 6971.2  | 6261.5  | 5922.8 | 5723.3 |
| 72.5° | 9043.3  | 6811.4  | 5386.1  | 4396.3  | 3702.7  | 3108.8  | 2874.1 | 2856.5 |
| 75°   | 4060.5  | 2689.4  | 1853.5  | 1428.3  | 1202.4  | 1045.5  | 997.1  | 960.5  |
| 77.5° | 1136.5  | 840.2   | 749.3   | 700.9   | 654.0   | 599.8   | 579.2  | 583.6  |
| 80°   | 552.8   | 522.0   | 501.5   | 470.7   | 428.2   | 382.7   | 362.2  | 371.0  |
| 82.5° | 366.6   | 362.2   | 375.4   | 353.4   | 291.8   | 247.8   | 208.2  | 190.6  |
| 85°   | 222.9   | 225.8   | 230.2   | 231.7   | 196.5   | 137.8   | 93.8   | 105.6  |
| 87.5° | 88.0    | 101.2   | 110.0   | 114.4   | 107.0   | 66.0    | 52.8   | 54.3   |
| 90°   | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0    | 0.0    |

(END OF REPORT)