

Scaled data based on original data using
LM-46-04 Photometric Testing of Indoor Luminaires Using High Intensity Discharge or
Incandescent Filament Lamps (Reaffirmed 2012)

Test Report Prepared for
Cooper Lighting Solutions
(formerly Eaton)

Brand: HALO

Report Number: H26031

Luminaire Tested: **H2594**

Issue Date: 3/3/2020



Test Information

Test Method: LM-46-04
Report Number: H26031
Test Lab:
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: HALO
Catalog Number: H2594
Description: HALO QUARTER SPHERE WALL MOUNT SCONCE
INCANDESCENT VERTION
Light Source: 100A19 100 WATTS 1750 LUMENS
A19 INSIDE FROSTED
Ballast/Driver: -

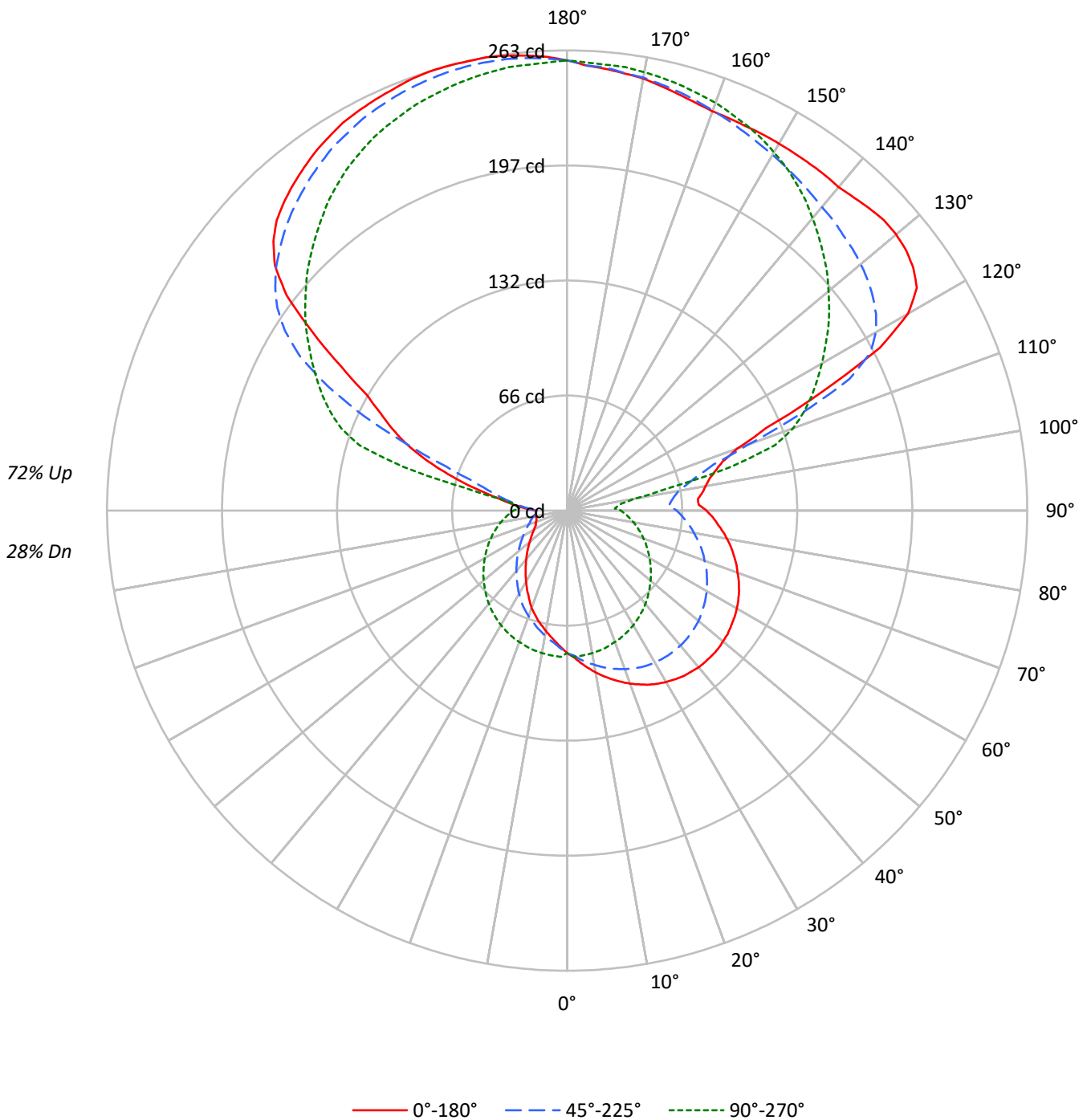
Summary

Lumens per Lamp: 1750 (1 lamp)
Luminaire Lumens: 1368.1 lumens
Efficiency: 78.2%
Efficacy: 13.7 lumens/watt
Spacing Criteria (0/90/45): 1.47 / 1.38 / 1.59
Luminous Opening: Point Source (0' x 0' x 0')
CIE Type: Semi-Indirect

Input Watts (W): 100
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





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

| | | | | | | | | | | | | | | | | | | |
|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| RF | 20 | | | | 20 | | | | 20 | | | | 20 | | | | 20 | |
| RC | 80 | | | | 70 | | | | 50 | | | | 30 | | | | 10 | 0 |
| RW | 70 | 50 | 30 | 10 | 70 | 50 | 30 | 10 | 50 | 30 | 10 | 50 | 30 | 10 | 50 | 30 | 10 | 0 |
| RCR | | | | | | | | | | | | | | | | | | |
| 0 | 80 | 80 | 80 | 80 | 71 | 71 | 71 | 71 | 56 | 56 | 56 | 41 | 41 | 41 | 28 | 28 | 28 | 22 |
| 1 | 71 | 67 | 64 | 61 | 63 | 60 | 57 | 55 | 47 | 45 | 43 | 34 | 33 | 32 | 23 | 22 | 21 | 16 |
| 2 | 64 | 58 | 53 | 49 | 57 | 52 | 48 | 44 | 40 | 37 | 34 | 29 | 27 | 25 | 19 | 18 | 17 | 12 |
| 3 | 58 | 51 | 45 | 40 | 52 | 45 | 40 | 36 | 35 | 31 | 28 | 26 | 23 | 21 | 17 | 15 | 14 | 10 |
| 4 | 53 | 45 | 38 | 33 | 47 | 40 | 34 | 30 | 31 | 27 | 24 | 22 | 20 | 18 | 15 | 13 | 12 | 8 |
| 5 | 49 | 39 | 33 | 28 | 43 | 35 | 30 | 25 | 27 | 23 | 20 | 20 | 17 | 15 | 13 | 11 | 10 | 7 |
| 6 | 45 | 35 | 29 | 24 | 40 | 31 | 26 | 22 | 24 | 20 | 17 | 18 | 15 | 13 | 12 | 10 | 8 | 6 |
| 7 | 41 | 31 | 25 | 21 | 36 | 28 | 23 | 19 | 22 | 18 | 15 | 16 | 13 | 11 | 11 | 9 | 7 | 5 |
| 8 | 38 | 28 | 22 | 18 | 34 | 25 | 20 | 17 | 20 | 16 | 13 | 15 | 12 | 10 | 10 | 8 | 7 | 4 |
| 9 | 35 | 26 | 20 | 16 | 31 | 23 | 18 | 15 | 18 | 14 | 12 | 13 | 11 | 9 | 9 | 7 | 6 | 4 |
| 10 | 33 | 23 | 18 | 14 | 29 | 21 | 16 | 13 | 17 | 13 | 10 | 12 | 10 | 8 | 8 | 6 | 5 | 4 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 90° | 180° |
|-----|--|-----|------|
| 0° | Luminaire represents a point source (luminous area is zero). | | |
| 5° | No luminance values can be calculated. | | |
| 10° | | | |
| 15° | | | |
| 20° | | | |
| 25° | | | |
| 30° | | | |
| 35° | | | |
| 40° | | | |
| 45° | | | |
| 50° | | | |
| 55° | | | |
| 60° | | | |
| 65° | | | |
| 70° | | | |
| 75° | | | |
| 80° | | | |
| 85° | | | |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture | % Lamp |
|-----------|--------|-----------|--------|
| 0°-10° | 7.8 | 0.6 | 0.4 |
| 10°-20° | 22.9 | 1.7 | 1.3 |
| 20°-30° | 36.6 | 2.7 | 2.1 |
| 30°-40° | 47.2 | 3.5 | 2.7 |
| 40°-50° | 54.2 | 4.0 | 3.1 |
| 50°-60° | 57.2 | 4.2 | 3.3 |
| 60°-70° | 56.7 | 4.1 | 3.2 |
| 70°-80° | 53.1 | 3.9 | 3.0 |
| 80°-90° | 47.1 | 3.4 | 2.7 |
| 90°-100° | 46.6 | 3.4 | 2.7 |
| 100°-110° | 81.4 | 5.9 | 4.6 |
| 110°-120° | 142.4 | 10.4 | 8.1 |
| 120°-130° | 179.9 | 13.2 | 10.3 |
| 130°-140° | 174.4 | 12.7 | 10.0 |
| 140°-150° | 149.6 | 10.9 | 8.5 |
| 150°-160° | 114.5 | 8.4 | 6.5 |
| 160°-170° | 72.0 | 5.3 | 4.1 |
| 170°-180° | 24.6 | 1.8 | 1.4 |
| 0°-30° | 67.3 | 4.9 | 3.8 |
| 0°-40° | 114.5 | 8.4 | 6.5 |
| 0°-60° | 226.0 | 16.5 | 12.9 |
| 0°-90° | 382.8 | 28.0 | 21.9 |
| 90°-120° | 270.3 | 19.8 | 15.4 |
| 90°-150° | 774.3 | 56.6 | 44.2 |
| 90°-180° | 985.0 | 72.0 | 56.3 |
| 0°-180° | 1368.1 | 100.0 | 78.2 |

CANDELA DISTRIBUTION:

| | 0° | 45° | 90° | 135° | 180° | Flux |
|------|-----|-----|-----|------|------|------|
| 0° | 81 | 81 | 81 | 81 | 81 | |
| 5° | 87 | 85 | 83 | 77 | 75 | 9 |
| 15° | 100 | 93 | 82 | 68 | 65 | 28 |
| 25° | 110 | 99 | 78 | 60 | 53 | 51 |
| 35° | 116 | 101 | 73 | 50 | 41 | 72 |
| 45° | 117 | 100 | 66 | 41 | 32 | 91 |
| 55° | 114 | 95 | 58 | 32 | 25 | 103 |
| 65° | 108 | 88 | 50 | 26 | 20 | 107 |
| 75° | 99 | 79 | 42 | 22 | 18 | 104 |
| 85° | 86 | 68 | 34 | 18 | 18 | 72 |
| 90° | 80 | 63 | 31 | 17 | 18 | 44 |
| 95° | 75 | 60 | 29 | 25 | 28 | 63 |
| 105° | 88 | 77 | 97 | 48 | 61 | 94 |
| 115° | 161 | 178 | 154 | 129 | 110 | 160 |
| 125° | 242 | 213 | 182 | 202 | 178 | 215 |
| 135° | 244 | 223 | 207 | 228 | 235 | 189 |
| 145° | 242 | 231 | 228 | 244 | 251 | 152 |
| 155° | 242 | 239 | 243 | 254 | 259 | 112 |
| 165° | 246 | 248 | 252 | 260 | 263 | 70 |
| 175° | 253 | 254 | 256 | 260 | 261 | 24 |
| 180° | 257 | 257 | 257 | 257 | 257 | |



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CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° | 112.5° | 135° | 157.5° | 180° |
|--------|-------|-------|-------|-------|-------|--------|------|--------|------|
| 0° | 81.4 | 81.4 | 81.4 | 81.4 | 81.4 | 81.4 | 81.4 | 81.4 | 81.4 |
| 2.5° | 83.8 | 83.6 | 82.8 | 81.9 | 83.7 | 80.0 | 79.1 | 78.7 | 78.3 |
| 5° | 87.2 | 86.6 | 85.3 | 83.1 | 83.4 | 78.6 | 76.6 | 75.5 | 75.3 |
| 7.5° | 90.6 | 89.7 | 87.5 | 84.2 | 83.1 | 77.1 | 74.6 | 73.1 | 72.6 |
| 10° | 93.9 | 92.7 | 89.5 | 85.1 | 82.7 | 75.6 | 72.6 | 70.5 | 69.8 |
| 12.5° | 97.0 | 95.5 | 91.5 | 85.9 | 82.2 | 74.2 | 70.5 | 68.1 | 67.2 |
| 15° | 99.9 | 98.0 | 93.4 | 86.6 | 81.7 | 72.7 | 68.5 | 65.7 | 64.7 |
| 17.5° | 102.6 | 100.6 | 94.9 | 87.1 | 80.7 | 71.2 | 66.2 | 63.1 | 61.9 |
| 20° | 105.3 | 103.0 | 96.4 | 87.5 | 79.9 | 69.7 | 64.3 | 60.6 | 59.3 |
| 22.5° | 107.5 | 104.8 | 97.7 | 87.7 | 79.1 | 68.2 | 62.1 | 57.8 | 56.0 |
| 25° | 109.8 | 106.5 | 98.9 | 87.9 | 78.0 | 66.7 | 59.9 | 54.7 | 52.8 |
| 27.5° | 111.6 | 108.3 | 99.7 | 87.8 | 76.9 | 64.8 | 57.5 | 51.8 | 49.9 |
| 30° | 113.1 | 109.6 | 100.3 | 87.3 | 75.6 | 63.0 | 54.9 | 48.8 | 46.9 |
| 32.5° | 114.4 | 110.8 | 100.6 | 87.0 | 74.2 | 61.2 | 52.4 | 46.1 | 44.1 |
| 35° | 115.6 | 111.5 | 100.9 | 86.3 | 72.7 | 59.4 | 49.8 | 43.6 | 41.4 |
| 37.5° | 116.2 | 112.0 | 100.8 | 85.6 | 71.3 | 57.5 | 47.5 | 41.1 | 38.8 |
| 40° | 116.9 | 112.4 | 100.7 | 84.7 | 69.6 | 55.4 | 45.0 | 38.7 | 36.4 |
| 42.5° | 117.1 | 112.5 | 100.4 | 83.7 | 67.9 | 53.4 | 42.8 | 36.4 | 34.1 |
| 45° | 117.1 | 112.4 | 99.7 | 82.3 | 66.0 | 51.1 | 40.6 | 34.1 | 31.9 |
| 47.5° | 117.0 | 111.9 | 98.9 | 81.1 | 64.1 | 49.1 | 38.4 | 32.0 | 29.9 |
| 50° | 116.3 | 111.3 | 98.1 | 79.5 | 62.3 | 47.0 | 36.3 | 30.0 | 27.9 |
| 52.5° | 115.7 | 110.4 | 96.7 | 78.1 | 60.4 | 45.0 | 34.3 | 28.2 | 26.2 |
| 55° | 114.5 | 109.2 | 95.3 | 76.4 | 58.3 | 42.9 | 32.5 | 26.6 | 24.7 |
| 57.5° | 113.4 | 108.0 | 93.8 | 74.7 | 56.4 | 40.9 | 30.8 | 25.0 | 23.2 |
| 60° | 112.0 | 106.4 | 92.1 | 72.8 | 54.4 | 39.0 | 29.1 | 23.6 | 22.0 |
| 62.5° | 110.3 | 104.8 | 90.1 | 70.9 | 52.4 | 37.1 | 27.5 | 22.3 | 20.7 |
| 65° | 108.4 | 102.8 | 88.1 | 68.8 | 50.4 | 35.4 | 26.1 | 21.2 | 19.7 |
| 67.5° | 106.2 | 100.6 | 86.1 | 66.7 | 48.5 | 33.7 | 24.8 | 20.4 | 19.6 |
| 70° | 103.6 | 98.1 | 83.6 | 64.6 | 46.4 | 31.9 | 23.4 | 19.8 | 18.9 |
| 72.5° | 101.4 | 95.7 | 81.4 | 62.4 | 44.5 | 30.2 | 22.2 | 19.3 | 18.4 |
| 75° | 98.6 | 93.0 | 79.0 | 60.0 | 42.4 | 28.7 | 21.5 | 18.7 | 18.2 |
| 77.5° | 95.9 | 90.1 | 76.2 | 57.8 | 40.5 | 27.1 | 20.5 | 18.3 | 18.1 |
| 80° | 92.8 | 87.2 | 73.6 | 55.5 | 38.5 | 25.6 | 19.5 | 17.9 | 18.1 |
| 82.5° | 89.6 | 84.3 | 71.0 | 53.2 | 36.4 | 24.2 | 18.8 | 17.6 | 18.0 |
| 85° | 86.2 | 81.3 | 68.2 | 50.8 | 34.5 | 23.2 | 18.3 | 17.2 | 17.9 |
| 87.5° | 83.2 | 78.1 | 65.4 | 48.5 | 32.6 | 21.9 | 17.5 | 16.8 | 17.8 |
| 90° | 79.6 | 75.0 | 62.7 | 46.1 | 30.7 | 20.7 | 16.9 | 16.5 | 17.6 |
| 92.5° | 75.3 | 74.1 | 58.0 | 41.7 | 27.3 | 21.5 | 21.2 | 21.6 | 22.5 |
| 95° | 74.9 | 72.4 | 59.6 | 43.6 | 28.9 | 25.0 | 25.3 | 26.6 | 27.8 |
| 97.5° | 77.9 | 72.9 | 61.7 | 45.3 | 31.6 | 29.6 | 30.2 | 31.9 | 33.4 |
| 100° | 80.3 | 75.6 | 64.7 | 49.3 | 38.9 | 40.6 | 35.5 | 38.1 | 39.7 |
| 102.5° | 83.2 | 78.1 | 70.4 | 56.4 | 59.7 | 74.9 | 41.3 | 44.9 | 49.0 |
| 105° | 87.6 | 82.6 | 77.4 | 70.5 | 97.2 | 109.5 | 47.9 | 53.7 | 61.2 |
| 107.5° | 93.1 | 88.2 | 87.9 | 97.1 | 124.6 | 128.4 | 57.4 | 65.0 | 73.5 |
| 110° | 103.3 | 94.4 | 109.8 | 131.6 | 137.4 | 141.2 | 73.7 | 76.0 | 86.8 |



TEST NUMBER: H26031
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CANDELA DISTRIBUTION (continued):

| | 0° | 22.5° | 45° | 67.5° | 90° | 112.5° | 135° | 157.5° | 180° |
|--------|-------|-------|-------|-------|-------|--------|-------|--------|-------|
| 112.5° | 123.0 | 106.3 | 144.3 | 154.7 | 146.2 | 151.4 | 98.7 | 86.4 | 99.3 |
| 115° | 161.0 | 130.2 | 178.2 | 167.9 | 154.0 | 160.6 | 128.6 | 98.0 | 110.1 |
| 117.5° | 201.4 | 172.4 | 195.4 | 176.5 | 161.0 | 168.7 | 154.3 | 117.8 | 120.1 |
| 120° | 225.0 | 208.9 | 203.8 | 183.2 | 168.1 | 176.8 | 176.2 | 140.9 | 132.1 |
| 122.5° | 237.0 | 227.3 | 209.3 | 189.3 | 174.9 | 184.7 | 191.2 | 166.9 | 153.2 |
| 125° | 241.6 | 236.1 | 213.3 | 194.4 | 182.3 | 192.4 | 202.3 | 189.9 | 177.6 |
| 127.5° | 244.3 | 240.2 | 216.5 | 199.3 | 188.8 | 199.3 | 210.3 | 207.5 | 202.0 |
| 130° | 245.5 | 242.5 | 219.1 | 204.0 | 195.0 | 206.2 | 217.0 | 219.1 | 218.1 |
| 132.5° | 245.6 | 243.6 | 221.3 | 208.7 | 201.5 | 212.7 | 222.6 | 227.0 | 227.7 |
| 135° | 244.3 | 244.3 | 222.9 | 212.9 | 207.1 | 218.5 | 227.7 | 232.6 | 234.7 |
| 137.5° | 242.6 | 244.2 | 225.1 | 217.0 | 212.7 | 224.3 | 232.4 | 237.6 | 239.4 |
| 140° | 241.4 | 244.4 | 226.5 | 221.0 | 218.2 | 229.3 | 236.5 | 241.5 | 243.5 |
| 142.5° | 241.8 | 244.2 | 228.6 | 224.7 | 223.7 | 233.8 | 240.5 | 245.2 | 247.0 |
| 145° | 241.9 | 244.1 | 230.7 | 228.2 | 228.3 | 237.8 | 244.0 | 249.0 | 250.6 |
| 147.5° | 242.0 | 244.7 | 232.8 | 231.6 | 232.8 | 241.5 | 247.5 | 252.0 | 253.3 |
| 150° | 242.2 | 245.3 | 234.8 | 234.4 | 236.4 | 245.1 | 249.8 | 254.1 | 256.1 |
| 152.5° | 242.3 | 245.9 | 236.8 | 237.3 | 240.1 | 247.7 | 252.6 | 256.1 | 257.7 |
| 155° | 242.2 | 246.7 | 238.9 | 240.2 | 242.9 | 250.2 | 254.5 | 258.2 | 259.2 |
| 157.5° | 242.5 | 247.6 | 241.3 | 242.7 | 245.4 | 251.9 | 256.3 | 259.5 | 260.5 |
| 160° | 242.9 | 248.7 | 243.3 | 245.1 | 248.0 | 253.8 | 257.7 | 260.6 | 262.1 |
| 162.5° | 244.3 | 250.4 | 245.5 | 246.9 | 249.7 | 255.2 | 258.9 | 261.8 | 263.0 |
| 165° | 246.3 | 252.8 | 247.7 | 249.1 | 251.6 | 256.6 | 259.8 | 262.1 | 263.2 |
| 167.5° | 248.5 | 254.9 | 249.4 | 250.8 | 253.1 | 257.4 | 260.3 | 262.2 | 263.0 |
| 170° | 250.7 | 256.6 | 251.2 | 252.5 | 254.4 | 258.0 | 260.4 | 262.4 | 263.1 |
| 172.5° | 252.0 | 258.1 | 252.2 | 253.8 | 255.6 | 258.4 | 260.3 | 262.2 | 262.3 |
| 175° | 253.4 | 259.8 | 254.1 | 254.9 | 255.8 | 258.2 | 259.6 | 260.7 | 261.0 |
| 177.5° | 254.6 | 261.2 | 254.6 | 255.9 | 256.3 | 257.5 | 258.5 | 259.4 | 259.5 |
| 180° | 257.3 | 257.3 | 257.3 | 257.3 | 257.3 | 257.3 | 257.3 | 257.3 | 257.3 |

(END OF REPORT)