

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: P400854

Luminaire Tested: **ENT-SA1-827-U-T4W-XXB**

Issue Date: 5/20/2020

Test Information

Test Method: LM-79-08
Report Number: P400854
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-2004-754-17)
Test Lab: INNOVATION CENTER
Issue Date: 5/20/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: INVUE
Catalog Number: ENT-SA1-827-U-T4W-XXB
Description: ENTRI LED LUMINAIRE
(1) 80 CRI, 2700K LIGHTSQUARE IN BATTERY OPERATION WITH 16 LEDS AND TYPE IV WIDE OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 567 lumens
Efficiency: N/A
Efficacy: 43.6 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 - G0

Input Watts (W): 13
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

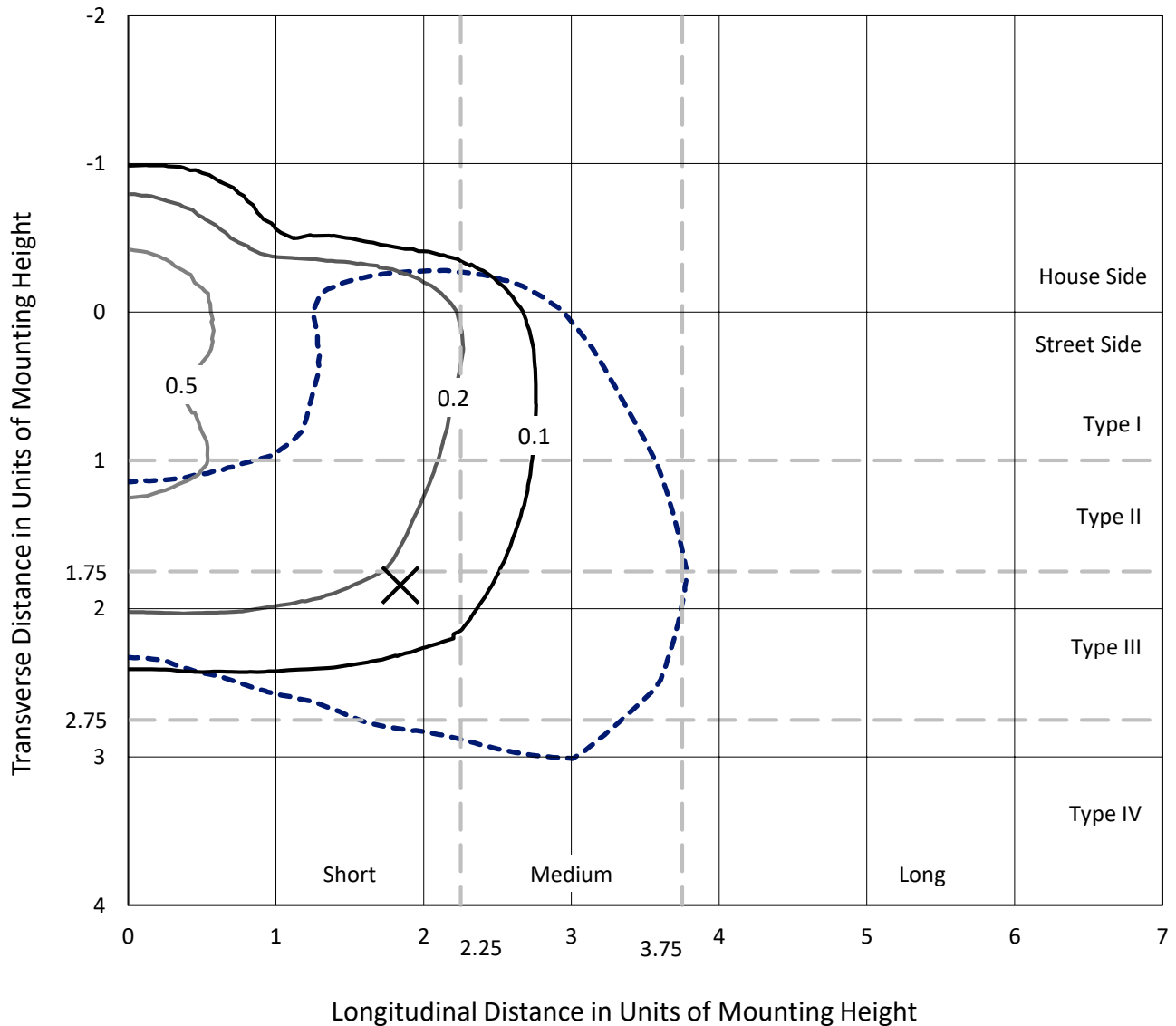


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Iso-Footcandle Lines of Horizontal Illumination

✕ Max cd
 - - - 1/2 Max cd

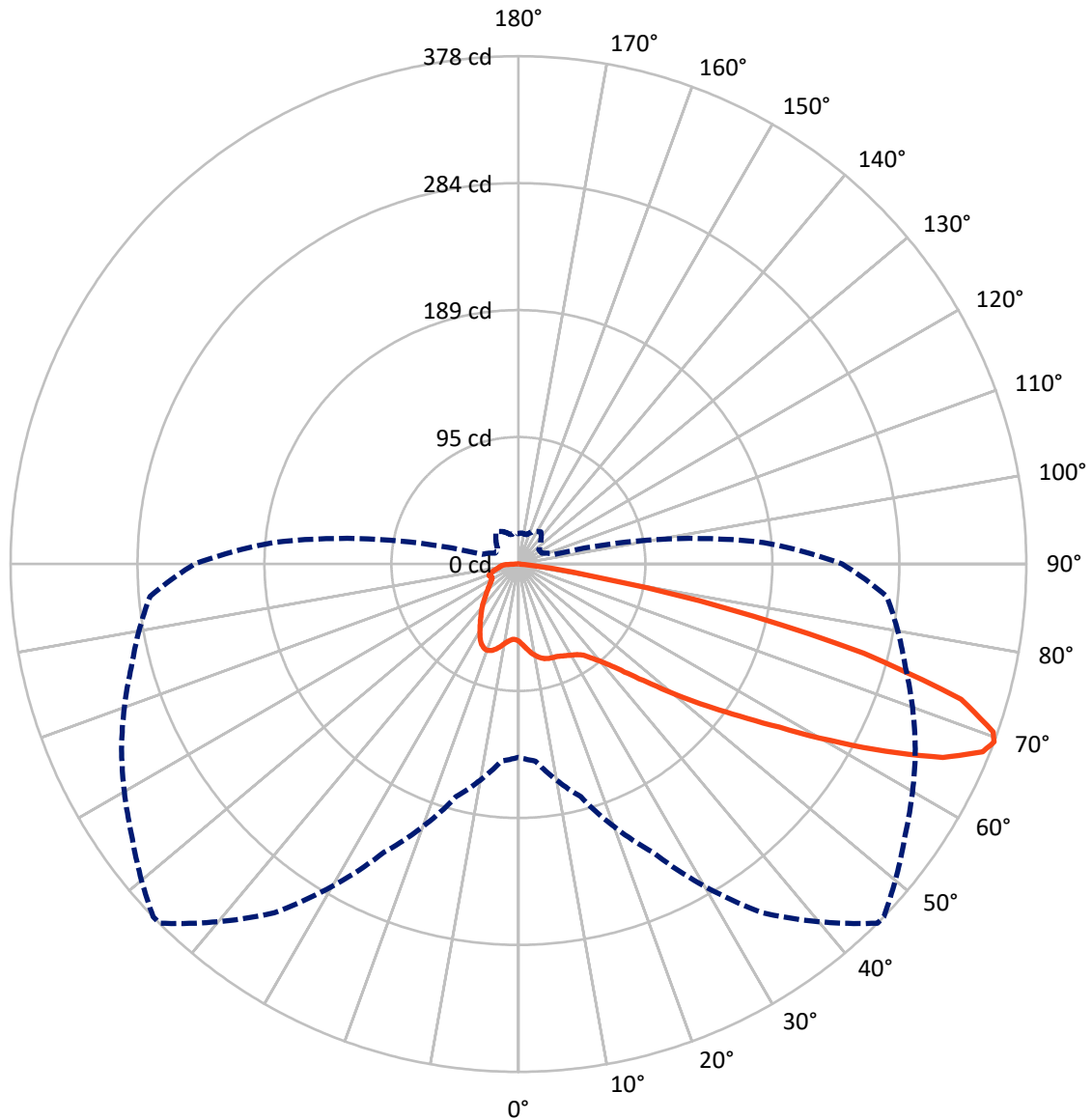


Based on 10 foot mounting height. Maximum calculated value = 0.7 fc
 Type IV - Short - Semi-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 45-Deg Lateral - - - Horizontal Cone Through 69-Deg Vertical

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FLUX DISTRIBUTION:

| | | Downward | Upward | Total |
|--------------------|-----------|----------|--------|-------|
| House Side | Lumens | 133.5 | 0.0 | 133.5 |
| | % Fixture | 23.5 | 0.0 | 23.5 |
| Street Side | Lumens | 433.5 | 0.0 | 433.5 |
| | % Fixture | 76.5 | 0.0 | 76.5 |
| Total | Lumens | 567.0 | 0.0 | 567.0 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

Coefficient of Utilization

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 5.9 | 1.0 |
| 10°-20° | 19.4 | 3.4 |
| 20°-30° | 32.8 | 5.8 |
| 30°-40° | 47.5 | 8.4 |
| 40°-50° | 71.7 | 12.7 |
| 50°-60° | 121.0 | 21.3 |
| 60°-70° | 166.4 | 29.3 |
| 70°-80° | 92.2 | 16.3 |
| 80°-90° | 10.0 | 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° | 567.0 | 100.0 |
| 0°-180° | 567.0 | 100.0 |



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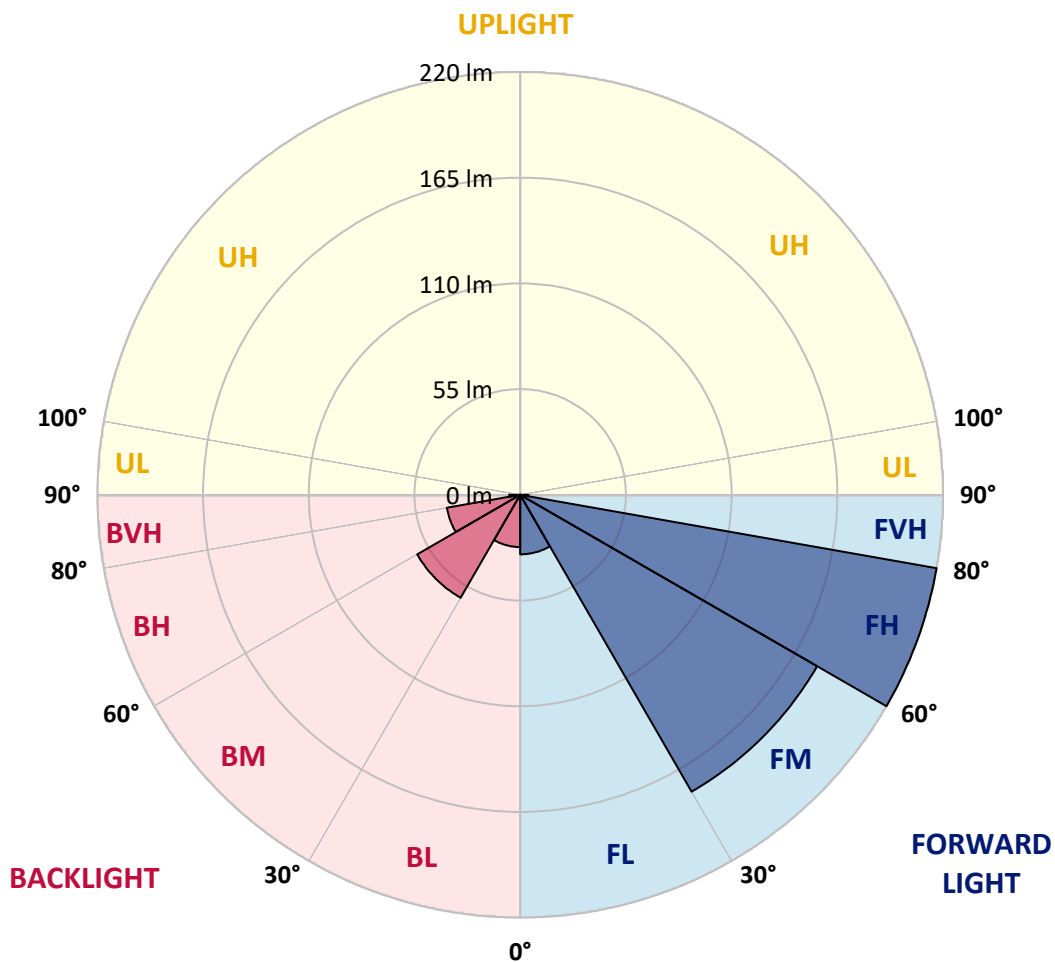
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | | Lumens | % Fixture | Zone Rating/Lumen Limit | | |
|------|-------------|--------|-----------|-------------------------|------|--------|
| | | | | B | U | G |
| FL | (0°-30°) | 30.9 | 5.5 | | | |
| FM | (30°-60°) | 178.3 | 31.5 | | | |
| FH | (60°-80°) | 219.9 | 38.8 | | | G0/660 |
| FVH | (80°-90°) | 4.3 | 0.8 | | | G0/10 |
| BL | (0°-30°) | 27.2 | 4.8 | B0/110 | | |
| BM | (30°-60°) | 61.9 | 10.9 | B0/220 | | |
| BH | (60°-80°) | 38.7 | 6.8 | B0/110 | | G0/110 |
| BVH | (80°-90°) | 5.7 | 1.0 | | | G0/10 |
| UL | (90°-100°) | 0.0 | 0.0 | | U0/0 | |
| UH | (100°-180°) | 0.0 | 0.0 | | U0/0 | |

BUG Rating: B0-U0-G0

Type IV Short





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CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 15° | 25° | 35° | 45° | 46° | 55° | 65° | 75° | 85° |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0° | 57.6 | 57.6 | 57.6 | 57.6 | 57.6 | 57.6 | 57.6 | 57.6 | 57.6 | 57.6 | 57.6 |
| 2.5° | 61.2 | 61.1 | 61.2 | 60.9 | 60.5 | 60.1 | 59.9 | 59.3 | 58.9 | 58.4 | 57.9 |
| 5° | 65.7 | 65.9 | 65.9 | 65.5 | 64.2 | 63.2 | 63.2 | 62.0 | 60.7 | 59.5 | 58.4 |
| 7.5° | 70.6 | 70.6 | 70.1 | 69.3 | 68.0 | 66.6 | 66.4 | 64.8 | 63.0 | 61.3 | 59.5 |
| 10° | 74.2 | 74.3 | 73.6 | 72.5 | 70.9 | 69.3 | 69.2 | 67.3 | 65.5 | 63.4 | 61.2 |
| 12.5° | 76.7 | 76.7 | 76.0 | 75.0 | 73.0 | 71.6 | 71.4 | 69.7 | 67.9 | 65.6 | 63.1 |
| 15° | 77.9 | 77.8 | 77.2 | 76.1 | 74.4 | 73.2 | 72.9 | 71.5 | 70.0 | 67.7 | 65.0 |
| 17.5° | 77.7 | 77.7 | 77.2 | 76.1 | 74.9 | 73.9 | 73.8 | 72.7 | 71.6 | 69.4 | 66.7 |
| 20° | 76.7 | 76.6 | 76.4 | 75.5 | 74.7 | 74.3 | 74.2 | 73.7 | 72.9 | 71.1 | 68.6 |
| 22.5° | 75.7 | 75.6 | 75.4 | 74.8 | 74.5 | 74.7 | 74.7 | 74.6 | 74.6 | 73.1 | 70.7 |
| 25° | 76.3 | 76.2 | 75.7 | 74.9 | 74.8 | 75.9 | 76.0 | 76.3 | 76.4 | 75.2 | 72.7 |
| 27.5° | 80.2 | 80.0 | 78.6 | 76.5 | 75.8 | 77.2 | 77.4 | 78.1 | 77.9 | 76.7 | 74.5 |
| 30° | 87.9 | 88.0 | 85.0 | 80.4 | 78.0 | 78.7 | 78.8 | 79.6 | 79.3 | 78.3 | 76.5 |
| 32.5° | 99.6 | 99.6 | 94.6 | 87.8 | 81.7 | 80.4 | 80.1 | 80.8 | 81.8 | 80.4 | 78.7 |
| 35° | 114.5 | 114.1 | 108.0 | 97.5 | 87.9 | 83.3 | 83.1 | 82.8 | 84.5 | 83.2 | 80.6 |
| 37.5° | 129.4 | 127.9 | 122.0 | 110.4 | 96.6 | 88.9 | 88.3 | 87.3 | 88.3 | 85.5 | 83.3 |
| 40° | 141.4 | 141.1 | 136.3 | 124.5 | 106.9 | 95.8 | 95.3 | 91.0 | 91.6 | 89.5 | 88.6 |
| 42.5° | 154.6 | 154.8 | 151.5 | 139.7 | 119.2 | 105.0 | 103.7 | 97.1 | 99.0 | 98.2 | 97.8 |
| 45° | 169.1 | 168.9 | 166.5 | 154.1 | 134.3 | 117.9 | 116.3 | 108.2 | 112.0 | 111.5 | 113.7 |
| 47.5° | 180.2 | 181.1 | 179.7 | 171.0 | 152.2 | 133.6 | 132.4 | 122.4 | 128.2 | 132.0 | 136.3 |
| 50° | 195.4 | 195.3 | 191.6 | 188.0 | 173.0 | 153.6 | 152.3 | 141.3 | 149.5 | 155.2 | 163.0 |
| 52.5° | 214.2 | 213.5 | 205.9 | 204.6 | 198.3 | 175.4 | 174.3 | 162.8 | 174.6 | 179.5 | 195.4 |
| 55° | 225.9 | 225.9 | 221.9 | 224.2 | 224.3 | 199.7 | 198.4 | 188.2 | 201.5 | 207.2 | 231.2 |
| 57.5° | 235.8 | 235.8 | 239.2 | 247.1 | 252.4 | 229.3 | 228.8 | 216.3 | 229.8 | 237.7 | 266.1 |
| 60° | 243.3 | 245.0 | 254.2 | 272.3 | 281.1 | 267.0 | 264.9 | 251.7 | 260.8 | 263.9 | 292.8 |
| 62.5° | 240.3 | 242.4 | 260.6 | 287.2 | 310.0 | 307.0 | 306.3 | 287.2 | 287.1 | 285.5 | 312.7 |
| 65° | 216.1 | 220.6 | 249.3 | 286.6 | 329.0 | 347.6 | 346.6 | 320.6 | 311.6 | 303.6 | 318.6 |
| 67.5° | 176.8 | 177.8 | 212.4 | 264.7 | 328.9 | 373.2 | 372.1 | 345.0 | 326.9 | 307.1 | 301.1 |
| 69° | 144.0 | 147.5 | 179.5 | 237.0 | 317.3 | 378.4 | 378.4 | 351.8 | 326.3 | 298.6 | 275.5 |
| 70° | 124.5 | 124.7 | 155.6 | 214.9 | 301.5 | 375.3 | 376.0 | 351.8 | 321.7 | 287.6 | 252.8 |
| 72.5° | 58.4 | 62.0 | 81.5 | 140.3 | 243.5 | 345.0 | 346.8 | 328.5 | 295.0 | 247.8 | 189.7 |
| 75° | 17.5 | 18.1 | 27.2 | 66.5 | 139.5 | 265.8 | 269.7 | 273.3 | 240.3 | 182.4 | 116.8 |
| 77.5° | 10.4 | 10.3 | 13.1 | 22.6 | 64.6 | 157.6 | 159.4 | 174.8 | 155.9 | 101.4 | 53.0 |
| 80° | 5.1 | 5.2 | 7.0 | 11.0 | 24.2 | 57.2 | 63.0 | 81.7 | 69.1 | 39.7 | 19.4 |
| 82.5° | 1.7 | 1.9 | 2.9 | 4.4 | 10.2 | 18.5 | 20.4 | 25.6 | 22.1 | 14.4 | 8.3 |
| 85° | 0.0 | 0.0 | 0.1 | 0.2 | 0.6 | 1.4 | 1.4 | 3.1 | 4.6 | 5.1 | 2.7 |
| 87.5° | 0.0 | 0.0 | 0.1 | 0.1 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 |
| 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° | 57.6 | 57.6 | 57.6 | 57.6 | 57.6 | 57.6 | 57.6 | 57.6 | 57.6 | 57.6 | 57.6 |
| 2.5° | 57.6 | 57.5 | 57.1 | 56.8 | 56.7 | 56.3 | 56.3 | 56.2 | 56.1 | 56.1 | 56.2 |
| 5° | 57.8 | 57.6 | 57.1 | 56.7 | 56.4 | 56.3 | 56.7 | 56.8 | 57.0 | 57.0 | 57.1 |
| 7.5° | 58.8 | 58.3 | 57.7 | 57.3 | 57.4 | 57.6 | 58.3 | 58.8 | 59.0 | 59.2 | 59.3 |
| 10° | 60.4 | 59.8 | 59.0 | 58.9 | 59.1 | 59.7 | 60.6 | 61.3 | 62.0 | 62.4 | 62.4 |
| 12.5° | 62.1 | 61.3 | 60.7 | 60.9 | 61.6 | 62.5 | 63.4 | 64.2 | 64.8 | 65.2 | 65.3 |
| 15° | 63.9 | 63.2 | 62.5 | 63.0 | 64.2 | 65.3 | 66.1 | 66.4 | 66.7 | 67.1 | 67.1 |
| 17.5° | 65.6 | 65.0 | 64.4 | 65.5 | 66.5 | 67.4 | 67.6 | 67.5 | 67.1 | 67.4 | 67.5 |
| 20° | 67.4 | 66.8 | 66.5 | 67.6 | 68.4 | 68.4 | 67.8 | 67.1 | 66.3 | 66.3 | 66.3 |
| 22.5° | 69.6 | 68.8 | 68.7 | 69.2 | 69.0 | 68.0 | 66.4 | 65.3 | 64.2 | 64.0 | 64.2 |
| 25° | 71.7 | 70.9 | 70.9 | 70.4 | 68.4 | 65.9 | 63.7 | 62.4 | 61.5 | 61.6 | 62.1 |
| 27.5° | 73.8 | 73.3 | 73.4 | 71.2 | 66.5 | 62.7 | 59.8 | 58.8 | 59.0 | 59.2 | 59.6 |
| 30° | 75.8 | 75.8 | 76.2 | 71.2 | 63.9 | 58.3 | 55.5 | 55.5 | 56.1 | 56.6 | 57.1 |
| 32.5° | 78.3 | 79.0 | 78.4 | 70.3 | 60.5 | 53.8 | 51.6 | 51.7 | 52.5 | 53.3 | 53.8 |
| 35° | 80.6 | 82.3 | 80.7 | 68.3 | 55.7 | 49.7 | 47.9 | 47.6 | 48.2 | 48.9 | 49.2 |
| 37.5° | 84.3 | 87.1 | 82.6 | 65.1 | 50.8 | 46.0 | 44.3 | 43.6 | 43.0 | 43.6 | 43.5 |
| 40° | 90.8 | 94.1 | 84.1 | 59.9 | 46.0 | 42.6 | 40.8 | 39.6 | 38.2 | 37.0 | 37.0 |
| 42.5° | 101.1 | 103.3 | 84.9 | 53.5 | 41.3 | 39.3 | 37.4 | 35.6 | 33.5 | 31.4 | 31.4 |
| 45° | 117.9 | 118.4 | 85.2 | 46.8 | 36.9 | 35.9 | 33.9 | 32.2 | 29.5 | 27.3 | 26.8 |
| 47.5° | 140.4 | 138.3 | 86.0 | 40.2 | 33.1 | 32.9 | 31.3 | 29.3 | 26.4 | 24.3 | 24.1 |
| 50° | 170.6 | 161.6 | 89.6 | 35.0 | 30.1 | 30.3 | 29.1 | 26.8 | 24.0 | 22.6 | 22.2 |
| 52.5° | 204.7 | 191.0 | 92.3 | 30.8 | 27.4 | 28.1 | 27.2 | 25.1 | 22.6 | 21.4 | 21.2 |
| 55° | 241.8 | 219.3 | 91.6 | 28.0 | 25.4 | 26.2 | 25.9 | 24.0 | 21.8 | 20.8 | 20.6 |
| 57.5° | 272.1 | 239.2 | 86.0 | 25.5 | 23.4 | 24.5 | 24.8 | 23.4 | 21.4 | 20.4 | 20.2 |
| 60° | 294.9 | 250.1 | 74.4 | 23.4 | 21.8 | 23.1 | 24.0 | 23.0 | 21.3 | 20.7 | 20.5 |
| 62.5° | 305.2 | 249.1 | 59.3 | 21.8 | 20.6 | 22.2 | 24.1 | 23.6 | 22.5 | 22.9 | 23.0 |
| 65° | 299.4 | 237.0 | 44.5 | 20.6 | 19.8 | 22.3 | 25.5 | 25.5 | 23.8 | 24.5 | 24.6 |
| 67.5° | 269.6 | 205.1 | 32.4 | 19.7 | 19.1 | 23.1 | 28.1 | 26.4 | 23.2 | 23.8 | 23.5 |
| 69° | 241.3 | 183.5 | 27.8 | 19.2 | 18.5 | 23.5 | 29.2 | 26.6 | 22.6 | 23.2 | 22.6 |
| 70° | 220.5 | 164.0 | 25.0 | 18.8 | 18.3 | 23.5 | 29.5 | 26.4 | 22.2 | 22.7 | 22.0 |
| 72.5° | 156.9 | 113.9 | 20.6 | 18.0 | 17.4 | 21.8 | 28.9 | 25.6 | 21.4 | 20.8 | 19.4 |
| 75° | 91.2 | 63.0 | 17.5 | 17.1 | 15.4 | 19.1 | 27.5 | 24.6 | 20.5 | 19.4 | 18.5 |
| 77.5° | 38.3 | 28.1 | 14.9 | 15.6 | 13.6 | 17.0 | 25.7 | 23.6 | 19.4 | 18.0 | 17.5 |
| 80° | 15.6 | 14.0 | 12.4 | 13.5 | 11.8 | 15.0 | 23.7 | 22.0 | 17.9 | 16.4 | 15.7 |
| 82.5° | 8.1 | 7.7 | 9.5 | 10.9 | 9.8 | 13.8 | 22.3 | 20.9 | 16.6 | 15.2 | 14.3 |
| 85° | 2.4 | 3.2 | 5.4 | 7.4 | 7.5 | 12.4 | 21.7 | 19.3 | 14.4 | 12.5 | 12.3 |
| 87.5° | 0.2 | 0.6 | 1.9 | 3.9 | 4.9 | 9.5 | 17.6 | 15.9 | 11.7 | 9.8 | 9.9 |
| 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)