

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: P299587

Luminaire Tested: **GLNA-AF-03-LED-E1-5MQ-7027**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P299587
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-03-LED-E1-5MQ-7027
Description: GALLEONAIRE AREA AND ROADWAY LUMINAIRE
(3) 70 CRI, 2700K CCT 1050mA LIGHTSQUARE WITH 16 LEDS EACH AND Type III
w/Spill Control OPTICS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 16529.7 lumens
Efficiency: N/A
Efficacy: 99.6 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type V - Short - Full Cutoff
BUG Rating: B4 - U0 - G2

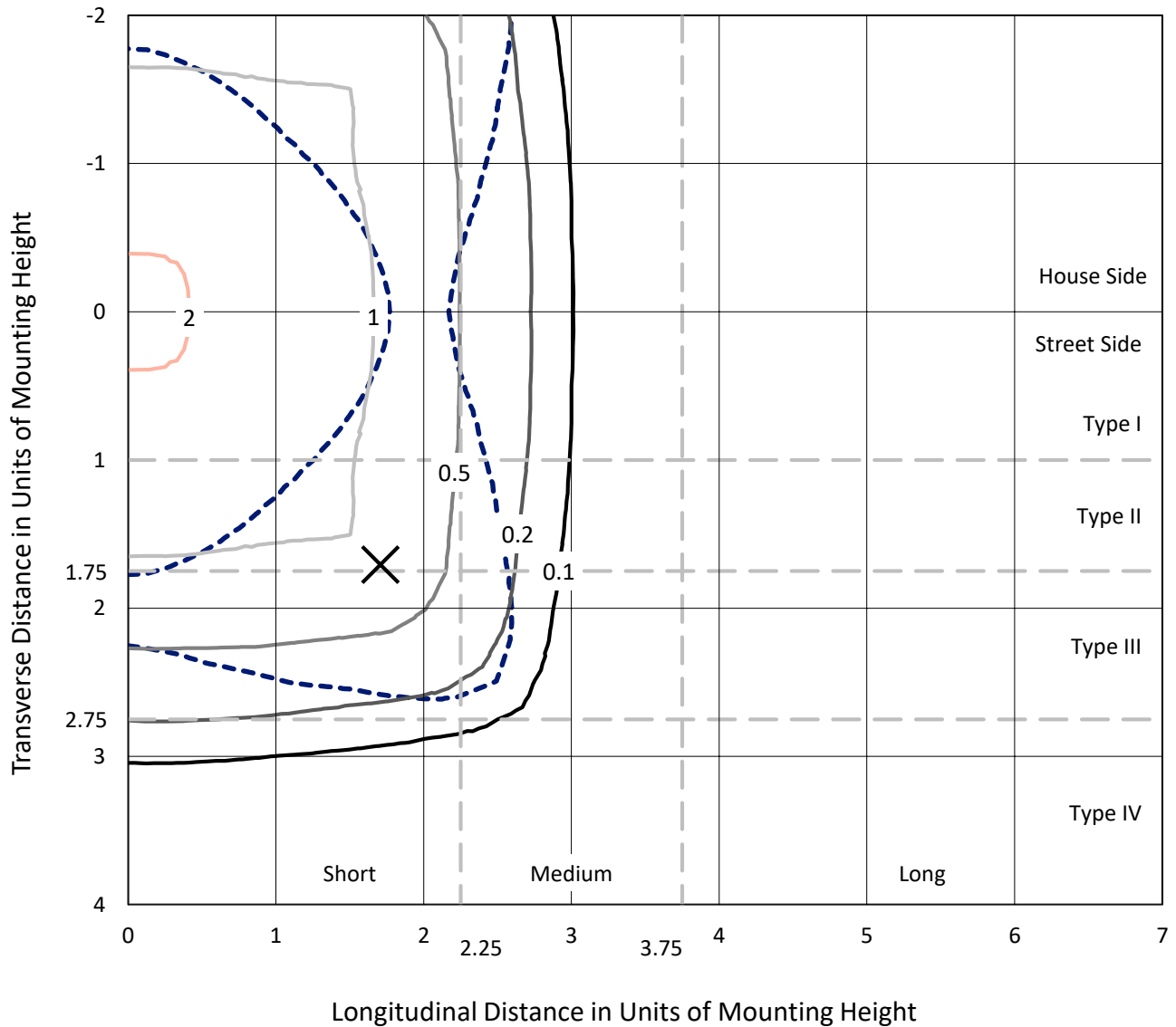
Input Watts (W): 166
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

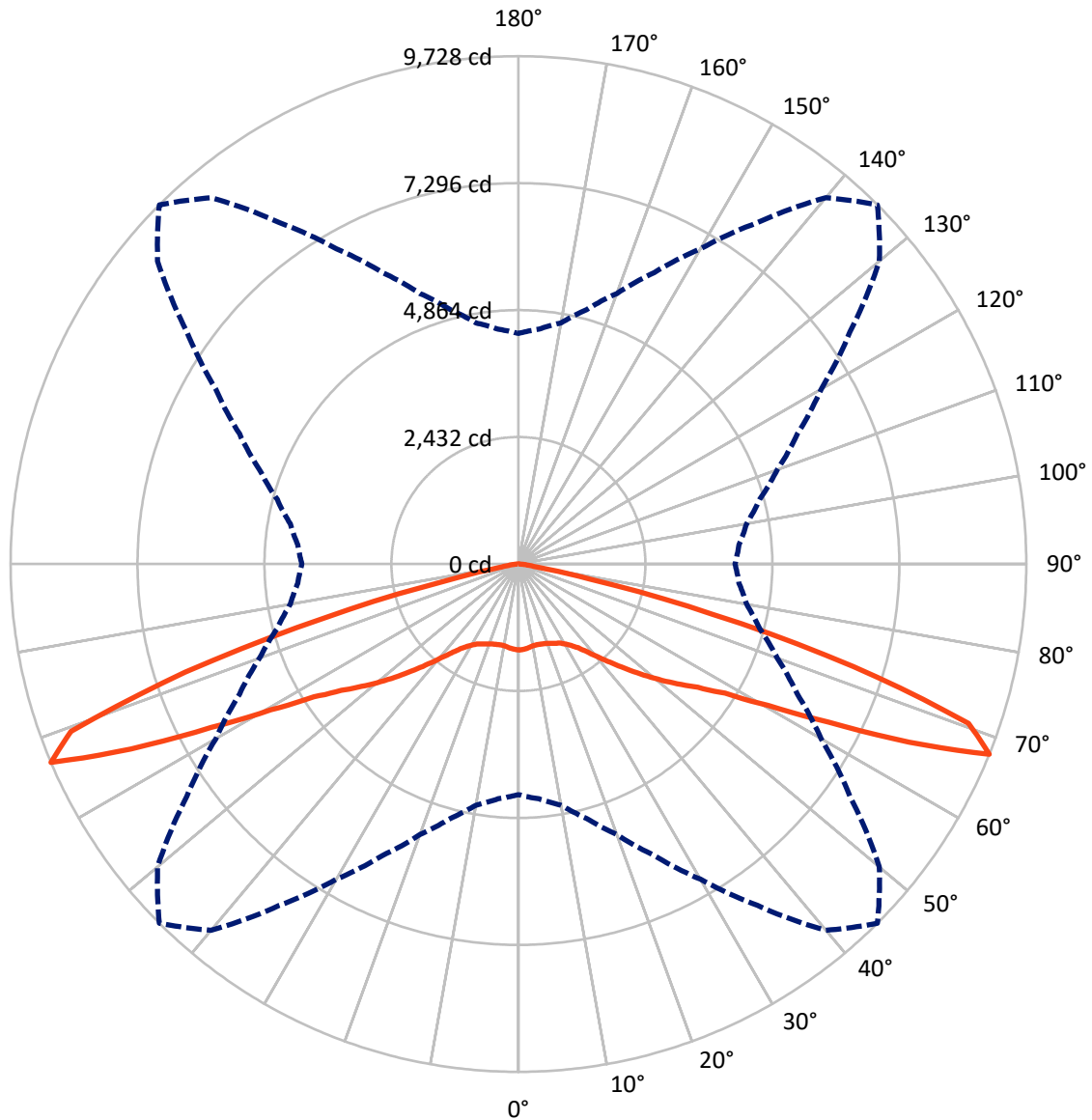
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 2.6 fc
 Type V - Short - Full Cutoff

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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 |
|--------------------|-----------|----------|--------|---------|
| House Side | Lumens | 8264.8 | 0.0 | 8264.8 |
| | % Fixture | 50.0 | 0.0 | 50.0 |
| Street Side | Lumens | 8264.8 | 0.0 | 8264.8 |
| | % Fixture | 50.0 | 0.0 | 50.0 |
| Total | Lumens | 16529.7 | 0.0 | 16529.7 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

Coefficient of Utilization

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|---------|-----------|
| 0°-10° | 154.2 | 0.9 |
| 10°-20° | 447.4 | 2.7 |
| 20°-30° | 760.6 | 4.6 |
| 30°-40° | 1243.3 | 7.5 |
| 40°-50° | 2219.4 | 13.4 |
| 50°-60° | 3742.1 | 22.6 |
| 60°-70° | 5807.1 | 35.1 |
| 70°-80° | 2040.4 | 12.3 |
| 80°-90° | 115.3 | 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° | 16529.7 | 100.0 |
| 0°-180° | 16529.7 | 100.0 |



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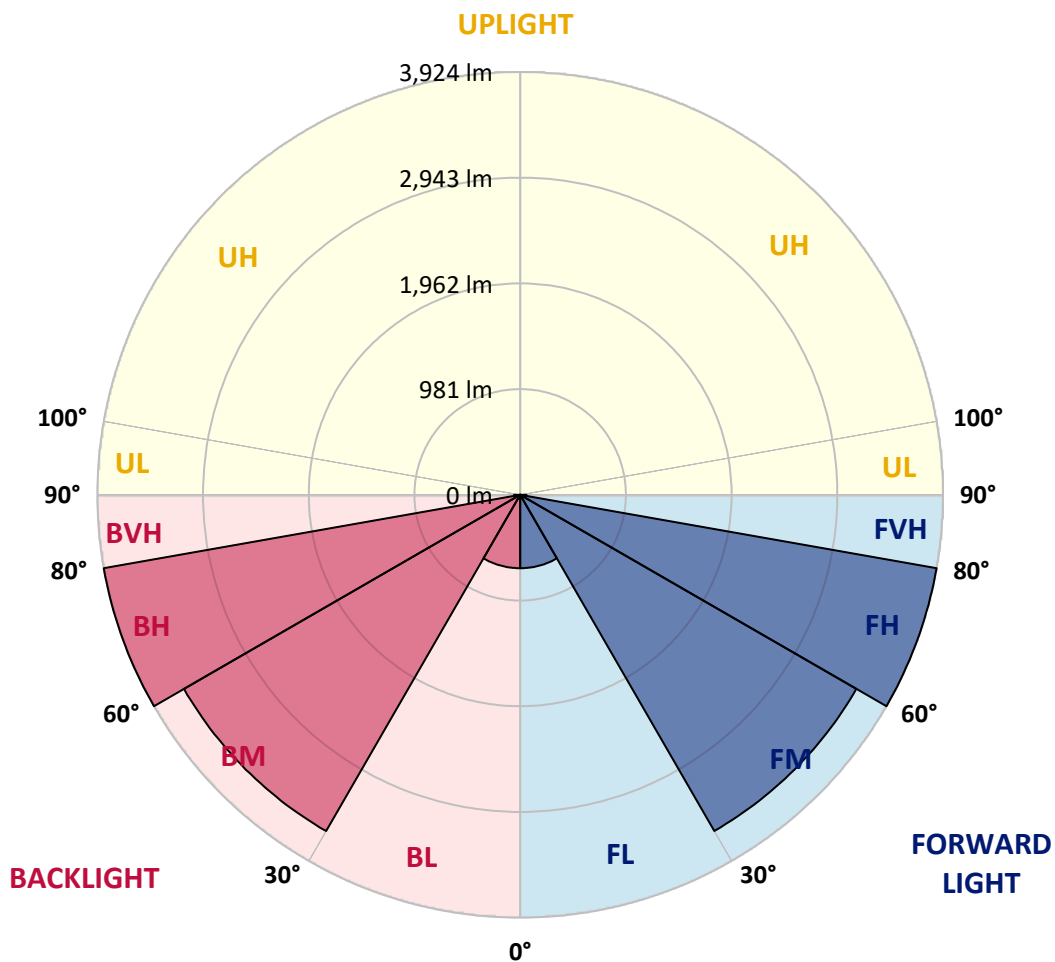
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | | Lumens | % Fixture | Zone Rating/Lumen Limit | | |
|------|-------------|--------|-----------|-------------------------|------|---------|
| | | | | B | U | G |
| FL | (0°-30°) | 681.1 | 4.1 | | | |
| FM | (30°-60°) | 3602.4 | 21.8 | | | |
| FH | (60°-80°) | 3923.7 | 23.7 | | | G2/5000 |
| FVH | (80°-90°) | 57.7 | 0.3 | | | G1/100 |
| BL | (0°-30°) | 681.1 | 4.1 | B2/1000 | | |
| BM | (30°-60°) | 3602.4 | 21.8 | B3/5000 | | |
| BH | (60°-80°) | 3923.7 | 23.7 | B4/5000 | | G2/5000 |
| BVH | (80°-90°) | 57.7 | 0.3 | | | G1/100 |
| UL | (90°-100°) | 0.0 | 0.0 | | U0/0 | |
| UH | (100°-180°) | 0.0 | 0.0 | | U0/0 | |

BUG Rating: B4-U0-G2

Type V Short





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CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 10° | 15° | 20° | 25° | 30° | 35° | 40° | 45° | 50° |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 1647.3 | 1647.3 | 1647.3 | 1647.3 | 1647.3 | 1647.3 | 1647.3 | 1647.3 | 1647.3 | 1647.3 | 1647.3 |
| 2.5° | 1641.2 | 1642.7 | 1642.7 | 1642.7 | 1641.9 | 1641.9 | 1640.4 | 1641.9 | 1641.2 | 1638.9 | 1639.6 |
| 5° | 1627.5 | 1629.0 | 1629.0 | 1628.2 | 1630.5 | 1629.8 | 1627.5 | 1629.0 | 1628.2 | 1626.7 | 1627.5 |
| 7.5° | 1607.7 | 1610.0 | 1610.0 | 1609.2 | 1611.5 | 1610.8 | 1609.2 | 1610.0 | 1610.0 | 1607.7 | 1607.7 |
| 10° | 1585.7 | 1587.2 | 1587.2 | 1586.4 | 1590.2 | 1590.2 | 1589.5 | 1591.8 | 1592.5 | 1590.2 | 1588.7 |
| 12.5° | 1565.2 | 1567.4 | 1567.4 | 1570.5 | 1574.3 | 1575.8 | 1579.6 | 1582.6 | 1585.7 | 1584.9 | 1581.9 |
| 15° | 1553.0 | 1554.5 | 1557.6 | 1561.4 | 1567.4 | 1572.8 | 1578.8 | 1585.7 | 1591.8 | 1593.3 | 1588.7 |
| 17.5° | 1545.4 | 1547.7 | 1552.2 | 1557.6 | 1565.9 | 1575.0 | 1584.2 | 1593.3 | 1601.6 | 1604.7 | 1599.4 |
| 20° | 1543.1 | 1544.6 | 1549.2 | 1558.3 | 1569.7 | 1583.4 | 1596.3 | 1607.0 | 1618.4 | 1622.2 | 1618.4 |
| 22.5° | 1547.7 | 1550.7 | 1556.0 | 1566.7 | 1581.9 | 1599.4 | 1614.6 | 1629.0 | 1643.4 | 1650.3 | 1645.0 |
| 25° | 1568.2 | 1571.2 | 1578.1 | 1591.8 | 1608.5 | 1626.7 | 1644.2 | 1660.9 | 1673.9 | 1680.7 | 1676.9 |
| 27.5° | 1606.2 | 1610.0 | 1618.4 | 1632.0 | 1650.3 | 1670.1 | 1689.1 | 1702.7 | 1713.4 | 1715.7 | 1711.1 |
| 30° | 1663.2 | 1671.6 | 1681.5 | 1696.7 | 1717.9 | 1734.7 | 1753.7 | 1765.8 | 1778.8 | 1778.8 | 1775.0 |
| 32.5° | 1752.2 | 1760.5 | 1771.2 | 1785.6 | 1802.3 | 1820.6 | 1837.3 | 1847.9 | 1861.6 | 1862.4 | 1853.3 |
| 35° | 1885.2 | 1889.0 | 1898.1 | 1907.2 | 1922.4 | 1938.4 | 1952.8 | 1959.7 | 1971.1 | 1971.8 | 1963.5 |
| 37.5° | 2060.8 | 2061.5 | 2067.6 | 2070.7 | 2084.3 | 2101.8 | 2115.5 | 2120.1 | 2130.7 | 2129.2 | 2120.8 |
| 40° | 2265.3 | 2269.1 | 2271.3 | 2275.9 | 2290.3 | 2307.1 | 2321.5 | 2323.8 | 2335.2 | 2332.9 | 2322.3 |
| 42.5° | 2501.7 | 2503.2 | 2516.1 | 2522.9 | 2536.6 | 2545.0 | 2563.2 | 2565.5 | 2579.2 | 2573.1 | 2561.0 |
| 45° | 2767.0 | 2780.6 | 2792.8 | 2806.5 | 2820.9 | 2830.8 | 2845.3 | 2842.2 | 2851.3 | 2842.2 | 2835.4 |
| 47.5° | 3045.9 | 3055.8 | 3083.2 | 3104.5 | 3128.0 | 3136.4 | 3156.9 | 3147.8 | 3156.9 | 3144.0 | 3141.7 |
| 50° | 3353.0 | 3370.5 | 3394.1 | 3418.4 | 3443.5 | 3457.2 | 3483.8 | 3472.4 | 3484.5 | 3472.4 | 3465.5 |
| 52.5° | 3655.6 | 3660.1 | 3711.8 | 3747.6 | 3782.5 | 3798.5 | 3814.4 | 3809.1 | 3809.9 | 3809.1 | 3802.3 |
| 55° | 3942.9 | 3953.6 | 4005.2 | 4053.9 | 4114.7 | 4159.6 | 4186.9 | 4183.9 | 4177.0 | 4170.2 | 4158.8 |
| 57.5° | 4266.7 | 4277.4 | 4336.7 | 4396.7 | 4465.9 | 4529.7 | 4585.2 | 4642.3 | 4664.3 | 4670.4 | 4645.3 |
| 60° | 4704.6 | 4703.8 | 4782.9 | 4855.9 | 4954.7 | 5049.7 | 5171.3 | 5295.2 | 5437.4 | 5503.5 | 5416.1 |
| 62.5° | 5150.0 | 5168.3 | 5282.3 | 5411.5 | 5615.2 | 5813.6 | 6037.9 | 6258.3 | 6483.3 | 6666.5 | 6471.9 |
| 65° | 5096.8 | 5166.8 | 5336.3 | 5628.9 | 6005.2 | 6452.2 | 6935.6 | 7447.2 | 7909.4 | 8227.1 | 7870.6 |
| 67.5° | 4417.2 | 4516.8 | 4689.4 | 5045.1 | 5515.7 | 6160.3 | 6972.1 | 7983.9 | 9159.8 | 9728.4 | 9023.8 |
| 70° | 3201.8 | 3314.3 | 3495.2 | 3842.6 | 4308.5 | 4921.2 | 5803.0 | 7017.7 | 8574.5 | 9147.7 | 8371.6 |
| 72.5° | 1593.3 | 1654.1 | 1765.8 | 1987.0 | 2339.7 | 2836.9 | 3636.6 | 4804.2 | 6181.6 | 6707.6 | 5998.4 |
| 75° | 541.2 | 569.4 | 588.4 | 660.6 | 772.3 | 967.7 | 1365.2 | 2100.3 | 3204.0 | 3841.1 | 3158.4 |
| 77.5° | 312.4 | 313.2 | 326.1 | 339.0 | 358.0 | 379.3 | 432.5 | 567.8 | 982.1 | 1394.9 | 1016.3 |
| 80° | 202.2 | 201.4 | 212.1 | 222.0 | 234.9 | 245.5 | 248.6 | 263.0 | 303.3 | 359.6 | 321.5 |
| 82.5° | 104.9 | 117.8 | 141.4 | 154.3 | 178.6 | 183.2 | 177.1 | 171.8 | 181.7 | 188.5 | 193.1 |
| 85° | 57.8 | 50.2 | 75.3 | 97.3 | 107.9 | 109.5 | 109.5 | 103.4 | 107.2 | 104.9 | 114.0 |
| 87.5° | 26.6 | 24.3 | 29.6 | 47.9 | 50.9 | 43.3 | 45.6 | 40.3 | 28.9 | 28.1 | 31.9 |
| 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° | 1647.3 | 1647.3 | 1647.3 | 1647.3 | 1647.3 | 1647.3 | 1647.3 | 1647.3 |
| 2.5° | 1639.6 | 1640.4 | 1640.4 | 1642.7 | 1643.4 | 1645.0 | 1646.5 | 1647.3 |
| 5° | 1626.7 | 1629.0 | 1627.5 | 1629.8 | 1629.8 | 1631.3 | 1631.3 | 1632.0 |
| 7.5° | 1607.7 | 1610.0 | 1610.0 | 1610.0 | 1609.2 | 1611.5 | 1611.5 | 1611.5 |
| 10° | 1588.0 | 1589.5 | 1588.7 | 1587.2 | 1585.7 | 1588.0 | 1587.2 | 1586.4 |
| 12.5° | 1581.9 | 1578.1 | 1575.0 | 1573.5 | 1570.5 | 1571.2 | 1569.0 | 1569.0 |
| 15° | 1585.7 | 1578.8 | 1573.5 | 1571.2 | 1568.2 | 1566.7 | 1565.2 | 1565.9 |
| 17.5° | 1595.6 | 1587.2 | 1580.4 | 1576.6 | 1572.8 | 1570.5 | 1567.4 | 1568.2 |
| 20° | 1613.0 | 1603.2 | 1593.3 | 1585.7 | 1578.8 | 1575.0 | 1572.8 | 1572.0 |
| 22.5° | 1638.9 | 1624.4 | 1610.0 | 1598.6 | 1589.5 | 1584.2 | 1581.9 | 1580.4 |
| 25° | 1668.5 | 1652.6 | 1635.8 | 1622.9 | 1613.8 | 1607.0 | 1602.4 | 1602.4 |
| 27.5° | 1705.8 | 1692.9 | 1677.7 | 1662.5 | 1654.1 | 1647.3 | 1644.2 | 1642.7 |
| 30° | 1768.1 | 1756.0 | 1743.8 | 1729.3 | 1718.7 | 1711.9 | 1706.5 | 1702.0 |
| 32.5° | 1847.9 | 1838.0 | 1828.2 | 1817.5 | 1807.6 | 1798.5 | 1790.2 | 1786.4 |
| 35° | 1960.4 | 1952.8 | 1946.0 | 1933.8 | 1930.0 | 1924.7 | 1920.1 | 1916.3 |
| 37.5° | 2115.5 | 2112.5 | 2112.5 | 2099.5 | 2096.5 | 2094.2 | 2089.7 | 2090.4 |
| 40° | 2319.2 | 2322.3 | 2318.5 | 2313.9 | 2311.6 | 2305.5 | 2305.5 | 2310.9 |
| 42.5° | 2560.2 | 2562.5 | 2570.8 | 2563.2 | 2571.6 | 2564.0 | 2559.4 | 2563.2 |
| 45° | 2839.9 | 2848.3 | 2865.0 | 2857.4 | 2862.7 | 2849.8 | 2833.8 | 2834.6 |
| 47.5° | 3153.9 | 3161.5 | 3168.3 | 3163.0 | 3163.8 | 3142.5 | 3121.2 | 3115.9 |
| 50° | 3480.0 | 3483.0 | 3486.8 | 3479.2 | 3480.7 | 3457.2 | 3432.8 | 3433.6 |
| 52.5° | 3802.3 | 3816.7 | 3831.9 | 3811.4 | 3806.8 | 3780.2 | 3746.0 | 3732.3 |
| 55° | 4171.0 | 4191.5 | 4174.0 | 4138.3 | 4102.5 | 4066.8 | 4022.0 | 4014.4 |
| 57.5° | 4625.5 | 4590.6 | 4535.8 | 4468.2 | 4418.8 | 4368.6 | 4323.0 | 4304.0 |
| 60° | 5258.0 | 5126.5 | 5027.6 | 4927.3 | 4864.2 | 4802.6 | 4742.6 | 4733.5 |
| 62.5° | 6151.9 | 5924.6 | 5727.7 | 5520.2 | 5350.7 | 5218.4 | 5112.8 | 5083.1 |
| 65° | 7272.4 | 6735.0 | 6269.0 | 5834.2 | 5456.4 | 5171.3 | 4991.9 | 4912.9 |
| 67.5° | 7754.3 | 6693.1 | 5894.2 | 5277.0 | 4782.9 | 4437.8 | 4243.9 | 4147.4 |
| 70° | 6814.0 | 5550.6 | 4681.8 | 4063.8 | 3613.8 | 3245.9 | 3070.3 | 2966.9 |
| 72.5° | 4687.9 | 3530.9 | 2792.0 | 2278.9 | 1919.4 | 1611.5 | 1489.9 | 1480.8 |
| 75° | 2104.9 | 1394.1 | 960.8 | 740.4 | 623.3 | 542.0 | 516.9 | 497.9 |
| 77.5° | 589.1 | 435.6 | 388.4 | 363.4 | 339.0 | 310.9 | 300.3 | 302.5 |
| 80° | 286.6 | 270.6 | 260.0 | 244.0 | 222.0 | 198.4 | 187.8 | 192.3 |
| 82.5° | 190.0 | 187.8 | 194.6 | 183.2 | 151.3 | 128.5 | 107.9 | 98.8 |
| 85° | 115.5 | 117.1 | 119.3 | 120.1 | 101.9 | 71.5 | 48.6 | 54.7 |
| 87.5° | 45.6 | 52.5 | 57.0 | 59.3 | 55.5 | 34.2 | 27.4 | 28.1 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)