

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: P299899

Luminaire Tested: **GLNA-AF-05-LED-E1-5WQ-7027-800**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P299899
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24143)
Test Lab: INNOVATION CENTER P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: MCGRAW-EDISON
Catalog Number: GLNA-AF-05-LED-E1-5WQ-7027-800
Description: GALLEONNAIRE AREA AND ROADWAY LUMINAIRE
(5) 70 CRI, 2700K CCT 800mA LIGHTSQUARE WITH 16 LEDS EACH AND Type IV
w/Spill Control OPTICS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 21918.8 lumens
Efficiency: N/A
Efficacy: 104.4 lumens/watt
Luminous Opening: Rectangular (W 1.5' x L: 1' x H: 0')
IES Classification: Type V - Short - Semi-Cutoff
BUG Rating: B5 - U0 - G3

Input Watts (W): 210
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

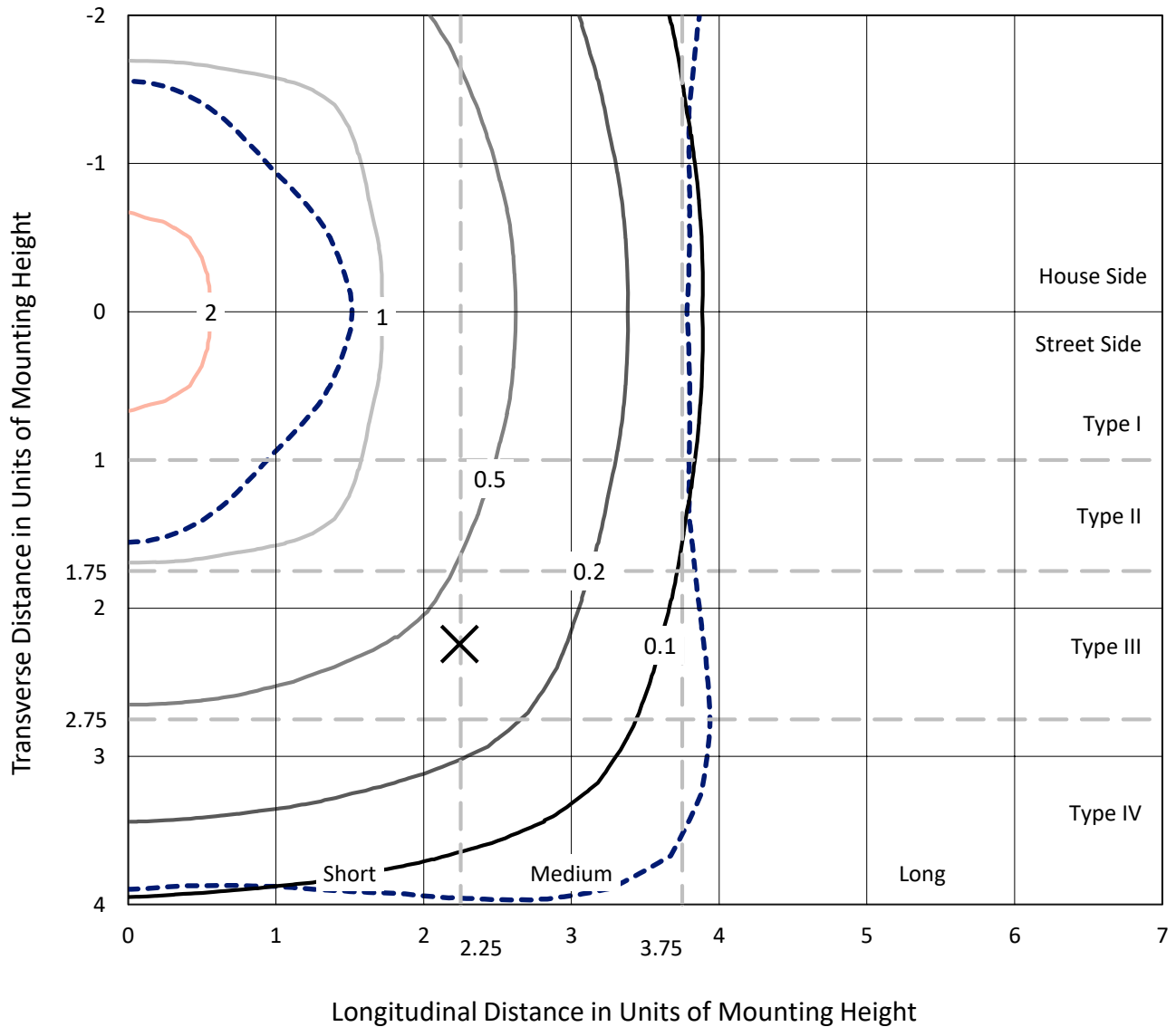


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Iso-Footcandle Lines of Horizontal Illumination

× Max cd
 - - - 1/2 Max cd

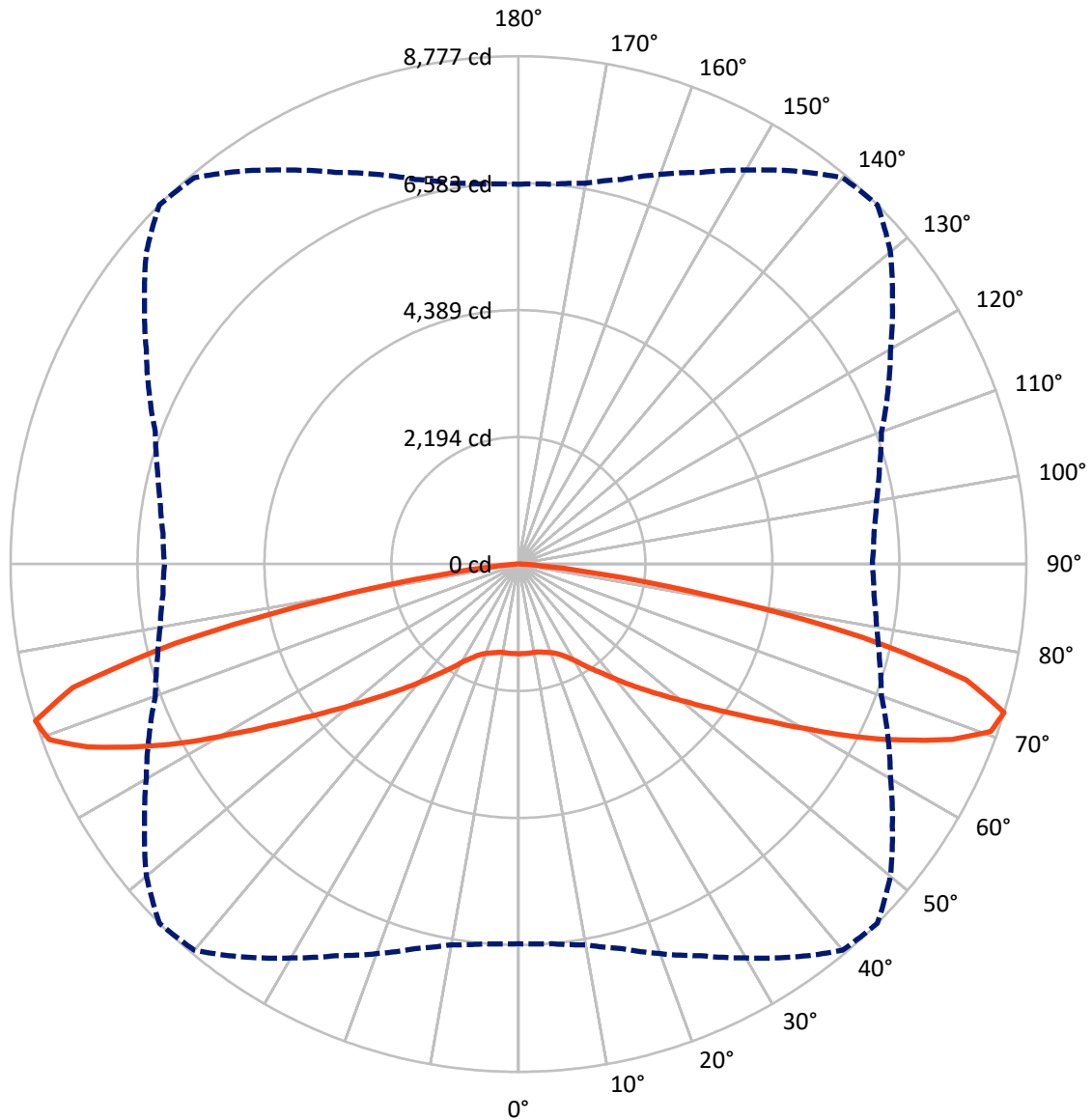


Based on 25 foot mounting height. Maximum calculated value = 2.5 fc
 Type V - Short - Semi-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 45-Deg Lateral - - - Horizontal Cone Through 72.5-Deg Vertical

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FLUX DISTRIBUTION:

| | | Downward | Upward | Total |
|--------------------|-----------|----------|--------|---------|
| House Side | Lumens | 10959.4 | 0.0 | 10959.4 |
| | % Fixture | 50.0 | 0.0 | 50.0 |
| Street Side | Lumens | 10959.4 | 0.0 | 10959.4 |
| | % Fixture | 50.0 | 0.0 | 50.0 |
| Total | Lumens | 21918.8 | 0.0 | 21918.8 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

Coefficient of Utilization

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|---------|-----------|
| 0°-10° | 148.2 | 0.7 |
| 10°-20° | 450.2 | 2.1 |
| 20°-30° | 822.6 | 3.8 |
| 30°-40° | 1418.3 | 6.5 |
| 40°-50° | 2424.6 | 11.1 |
| 50°-60° | 3930.0 | 17.9 |
| 60°-70° | 6519.7 | 29.7 |
| 70°-80° | 5742.3 | 26.2 |
| 80°-90° | 463.0 | 2.1 |
| 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° | 21918.8 | 100.0 |
| 0°-180° | 21918.8 | 100.0 |



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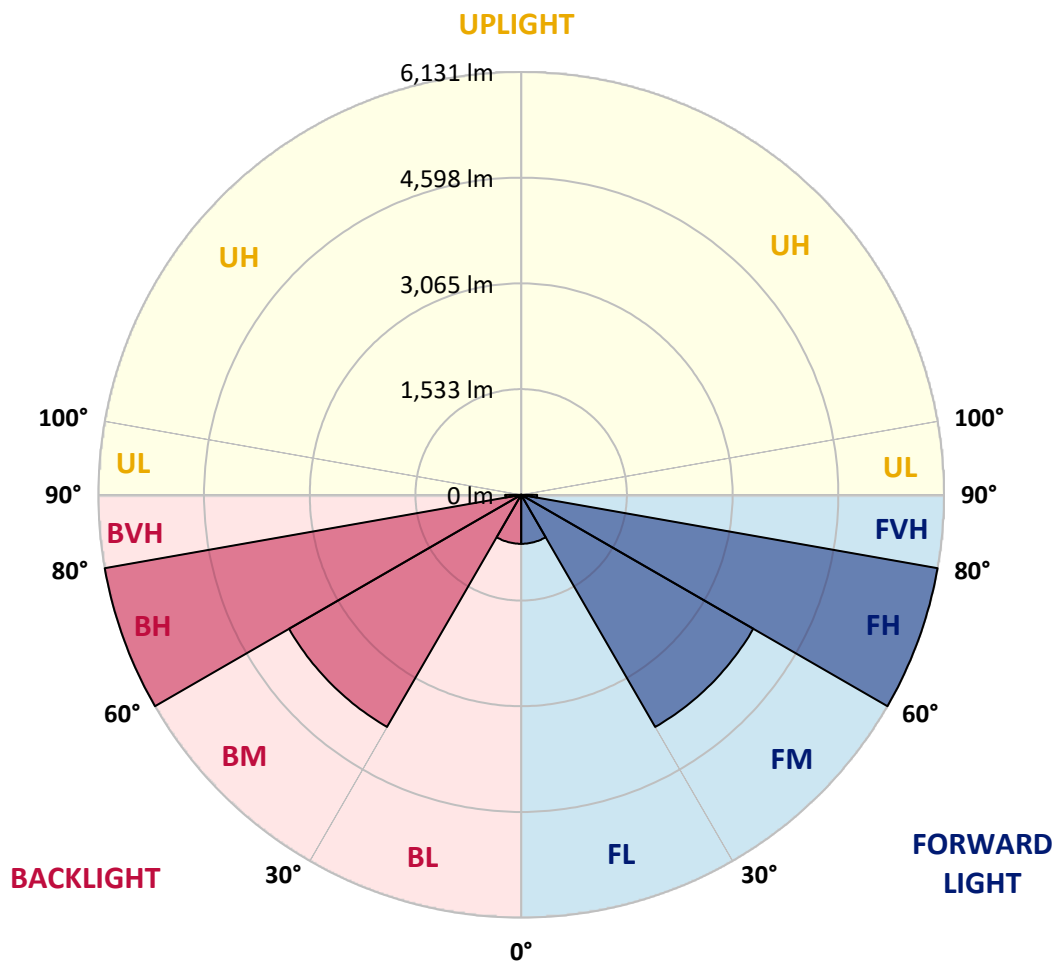
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | | Lumens | % Fixture | Zone Rating/Lumen Limit | | |
|------|-------------|--------|-----------|-------------------------|------|---------|
| | | | | B | U | G |
| FL | (0°-30°) | 710.5 | 3.2 | | | |
| FM | (30°-60°) | 3886.4 | 17.7 | | | |
| FH | (60°-80°) | 6131.0 | 28.0 | | | G3/7500 |
| FVH | (80°-90°) | 231.5 | 1.1 | | | G3/500 |
| BL | (0°-30°) | 710.5 | 3.2 | B2/1000 | | |
| BM | (30°-60°) | 3886.4 | 17.7 | B3/5000 | | |
| BH | (60°-80°) | 6131.0 | 28.0 | B5 | | G3/7500 |
| BVH | (80°-90°) | 231.5 | 1.1 | | | G3/500 |
| UL | (90°-100°) | 0.0 | 0.0 | | U0/0 | |
| UH | (100°-180°) | 0.0 | 0.0 | | U0/0 | |

BUG Rating: B5-U0-G3

Type V Short





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CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 10° | 15° | 20° | 25° | 30° | 35° | 40° | 45° | 50° |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 1552.2 | 1552.2 | 1552.2 | 1552.2 | 1552.2 | 1552.2 | 1552.2 | 1552.2 | 1552.2 | 1552.2 | 1552.2 |
| 2.5° | 1552.2 | 1553.2 | 1554.2 | 1553.2 | 1553.2 | 1552.2 | 1551.2 | 1552.2 | 1551.2 | 1549.2 | 1550.2 |
| 5° | 1557.2 | 1559.2 | 1559.2 | 1557.2 | 1558.2 | 1557.2 | 1555.2 | 1556.2 | 1554.2 | 1551.2 | 1551.2 |
| 7.5° | 1563.3 | 1564.3 | 1564.3 | 1562.2 | 1563.3 | 1561.2 | 1559.2 | 1558.2 | 1556.2 | 1552.2 | 1549.2 |
| 10° | 1572.3 | 1573.3 | 1572.3 | 1570.3 | 1570.3 | 1567.3 | 1562.2 | 1560.2 | 1556.2 | 1550.2 | 1547.2 |
| 12.5° | 1582.4 | 1583.4 | 1582.4 | 1580.3 | 1579.3 | 1574.3 | 1570.3 | 1567.3 | 1564.3 | 1559.2 | 1554.2 |
| 15° | 1596.4 | 1598.4 | 1596.4 | 1592.4 | 1589.4 | 1585.4 | 1583.4 | 1584.4 | 1585.4 | 1581.3 | 1576.3 |
| 17.5° | 1622.6 | 1623.6 | 1620.6 | 1611.5 | 1607.5 | 1603.5 | 1603.5 | 1605.5 | 1608.5 | 1606.5 | 1601.5 |
| 20° | 1670.8 | 1667.8 | 1660.8 | 1649.7 | 1644.7 | 1637.6 | 1636.6 | 1637.6 | 1637.6 | 1636.6 | 1632.6 |
| 22.5° | 1731.1 | 1729.1 | 1720.1 | 1706.0 | 1699.0 | 1694.9 | 1688.9 | 1683.9 | 1682.9 | 1679.9 | 1675.8 |
| 25° | 1803.5 | 1802.5 | 1791.5 | 1779.4 | 1774.4 | 1769.3 | 1764.3 | 1757.3 | 1751.2 | 1744.2 | 1740.2 |
| 27.5° | 1896.0 | 1892.0 | 1875.9 | 1869.9 | 1862.8 | 1859.8 | 1852.8 | 1844.7 | 1839.7 | 1830.7 | 1825.6 |
| 30° | 1997.5 | 1997.5 | 1984.5 | 1982.5 | 1982.5 | 1975.4 | 1967.4 | 1953.3 | 1944.3 | 1935.2 | 1932.2 |
| 32.5° | 2099.1 | 2100.1 | 2087.0 | 2091.0 | 2094.1 | 2099.1 | 2101.1 | 2096.1 | 2090.0 | 2089.0 | 2083.0 |
| 35° | 2245.9 | 2241.8 | 2228.8 | 2231.8 | 2230.8 | 2229.8 | 2229.8 | 2240.8 | 2242.8 | 2244.8 | 2232.8 |
| 37.5° | 2427.8 | 2427.8 | 2414.7 | 2414.7 | 2408.7 | 2402.7 | 2394.6 | 2401.7 | 2412.7 | 2415.8 | 2407.7 |
| 40° | 2635.9 | 2642.9 | 2626.9 | 2625.9 | 2627.9 | 2608.8 | 2599.7 | 2610.8 | 2617.8 | 2629.9 | 2620.8 |
| 42.5° | 2881.2 | 2876.2 | 2860.1 | 2858.1 | 2847.0 | 2841.0 | 2833.0 | 2842.0 | 2853.1 | 2861.1 | 2864.1 |
| 45° | 3116.4 | 3112.4 | 3094.3 | 3094.3 | 3083.3 | 3078.2 | 3082.3 | 3097.3 | 3102.4 | 3113.4 | 3124.5 |
| 47.5° | 3348.7 | 3343.6 | 3331.6 | 3336.6 | 3337.6 | 3346.7 | 3359.7 | 3373.8 | 3387.9 | 3403.0 | 3408.0 |
| 50° | 3585.9 | 3586.9 | 3573.9 | 3585.9 | 3601.0 | 3626.1 | 3661.3 | 3684.4 | 3713.6 | 3732.7 | 3738.7 |
| 52.5° | 3802.1 | 3806.1 | 3820.2 | 3848.3 | 3878.5 | 3927.7 | 3988.0 | 4044.3 | 4092.6 | 4124.8 | 4122.8 |
| 55° | 4061.4 | 4067.5 | 4101.6 | 4149.9 | 4199.2 | 4273.6 | 4363.0 | 4462.6 | 4543.0 | 4589.2 | 4560.1 |
| 57.5° | 4393.2 | 4406.3 | 4444.5 | 4509.8 | 4583.2 | 4679.7 | 4802.3 | 4952.1 | 5076.8 | 5139.1 | 5091.9 |
| 60° | 4848.6 | 4856.6 | 4902.9 | 4975.3 | 5063.7 | 5183.4 | 5347.2 | 5548.3 | 5724.2 | 5806.6 | 5752.4 |
| 62.5° | 5448.8 | 5463.8 | 5501.0 | 5574.4 | 5664.9 | 5800.6 | 6000.7 | 6252.0 | 6471.2 | 6585.8 | 6463.1 |
| 65° | 6165.5 | 6213.8 | 6245.0 | 6319.4 | 6403.8 | 6547.6 | 6756.7 | 7026.1 | 7261.3 | 7336.7 | 7195.0 |
| 67.5° | 6875.3 | 6917.5 | 6971.8 | 7057.2 | 7142.7 | 7304.6 | 7498.6 | 7760.0 | 8018.3 | 8086.7 | 7866.5 |
| 70° | 7185.9 | 7210.1 | 7294.5 | 7411.1 | 7575.0 | 7766.0 | 7990.2 | 8283.7 | 8603.4 | 8659.7 | 8380.2 |
| 72.5° | 6563.6 | 6587.8 | 6682.3 | 6880.3 | 7165.8 | 7469.4 | 7860.5 | 8291.8 | 8714.0 | 8777.3 | 8392.3 |
| 75° | 4964.2 | 4925.0 | 5064.7 | 5327.1 | 5712.1 | 6135.4 | 6682.3 | 7300.5 | 7910.8 | 7990.2 | 7530.7 |
| 77.5° | 2565.5 | 2560.5 | 2666.1 | 2991.8 | 3451.2 | 3932.8 | 4534.9 | 5233.6 | 5830.8 | 6072.0 | 5698.1 |
| 80° | 722.8 | 730.9 | 781.1 | 943.0 | 1211.4 | 1559.2 | 2029.7 | 2684.2 | 3172.7 | 3422.1 | 3213.0 |
| 82.5° | 283.5 | 305.6 | 324.7 | 354.9 | 390.1 | 441.3 | 589.1 | 876.6 | 1176.2 | 1405.4 | 1151.1 |
| 85° | 101.5 | 108.6 | 153.8 | 182.0 | 185.0 | 195.0 | 222.2 | 259.4 | 312.7 | 373.0 | 306.6 |
| 87.5° | 38.2 | 42.2 | 49.3 | 81.4 | 80.4 | 73.4 | 89.5 | 93.5 | 70.4 | 64.3 | 79.4 |
| 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° | 1552.2 | 1552.2 | 1552.2 | 1552.2 | 1552.2 | 1552.2 | 1552.2 | 1552.2 |
| 2.5° | 1548.2 | 1549.2 | 1549.2 | 1550.2 | 1551.2 | 1551.2 | 1553.2 | 1553.2 |
| 5° | 1549.2 | 1549.2 | 1547.2 | 1548.2 | 1547.2 | 1547.2 | 1548.2 | 1548.2 |
| 7.5° | 1547.2 | 1546.2 | 1544.2 | 1543.1 | 1541.1 | 1541.1 | 1541.1 | 1541.1 |
| 10° | 1544.2 | 1543.1 | 1541.1 | 1540.1 | 1539.1 | 1539.1 | 1539.1 | 1539.1 |
| 12.5° | 1552.2 | 1549.2 | 1547.2 | 1546.2 | 1546.2 | 1546.2 | 1546.2 | 1546.2 |
| 15° | 1573.3 | 1566.3 | 1561.2 | 1561.2 | 1562.2 | 1564.3 | 1564.3 | 1566.3 |
| 17.5° | 1599.4 | 1591.4 | 1586.4 | 1582.4 | 1584.4 | 1587.4 | 1589.4 | 1591.4 |
| 20° | 1630.6 | 1626.6 | 1619.5 | 1615.5 | 1615.5 | 1619.5 | 1621.6 | 1622.6 |
| 22.5° | 1673.8 | 1670.8 | 1667.8 | 1662.8 | 1662.8 | 1664.8 | 1668.8 | 1668.8 |
| 25° | 1738.2 | 1736.2 | 1734.2 | 1730.1 | 1729.1 | 1729.1 | 1731.1 | 1733.1 |
| 27.5° | 1818.6 | 1819.6 | 1817.6 | 1816.6 | 1813.6 | 1812.6 | 1815.6 | 1814.6 |
| 30° | 1926.2 | 1931.2 | 1936.2 | 1932.2 | 1927.2 | 1924.2 | 1921.1 | 1917.1 |
| 32.5° | 2071.9 | 2065.9 | 2061.9 | 2054.8 | 2045.8 | 2037.8 | 2031.7 | 2024.7 |
| 35° | 2209.7 | 2199.6 | 2195.6 | 2201.6 | 2200.6 | 2195.6 | 2188.6 | 2182.5 |
| 37.5° | 2378.6 | 2376.5 | 2378.6 | 2389.6 | 2387.6 | 2392.6 | 2378.6 | 2377.5 |
| 40° | 2591.7 | 2593.7 | 2607.8 | 2620.8 | 2627.9 | 2634.9 | 2626.9 | 2618.8 |
| 42.5° | 2839.0 | 2838.0 | 2843.0 | 2861.1 | 2873.2 | 2881.2 | 2864.1 | 2862.1 |
| 45° | 3100.4 | 3093.3 | 3097.3 | 3112.4 | 3124.5 | 3133.5 | 3114.4 | 3114.4 |
| 47.5° | 3387.9 | 3375.8 | 3362.7 | 3379.8 | 3386.9 | 3392.9 | 3377.8 | 3372.8 |
| 50° | 3708.6 | 3683.4 | 3655.3 | 3662.3 | 3662.3 | 3660.3 | 3641.2 | 3640.2 |
| 52.5° | 4076.5 | 4030.3 | 3979.0 | 3959.9 | 3948.8 | 3936.8 | 3903.6 | 3887.5 |
| 55° | 4499.8 | 4430.4 | 4350.0 | 4300.7 | 4274.6 | 4241.4 | 4186.1 | 4171.0 |
| 57.5° | 4994.4 | 4885.8 | 4747.1 | 4686.7 | 4628.4 | 4574.1 | 4512.8 | 4495.7 |
| 60° | 5580.5 | 5420.6 | 5236.6 | 5125.1 | 5061.7 | 5009.4 | 4946.1 | 4943.1 |
| 62.5° | 6233.9 | 5981.6 | 5773.5 | 5672.9 | 5626.7 | 5580.5 | 5520.1 | 5528.2 |
| 65° | 6898.4 | 6635.0 | 6440.0 | 6358.6 | 6315.3 | 6277.1 | 6216.8 | 6225.9 |
| 67.5° | 7553.9 | 7311.6 | 7097.5 | 7014.0 | 6965.8 | 6917.5 | 6863.2 | 6872.3 |
| 70° | 8024.4 | 7723.8 | 7482.5 | 7297.5 | 7181.9 | 7051.2 | 6966.8 | 6945.7 |
| 72.5° | 7889.6 | 7426.2 | 7043.2 | 6676.2 | 6461.1 | 6286.2 | 6167.6 | 6116.3 |
| 75° | 6828.0 | 6194.7 | 5702.1 | 5251.7 | 4998.4 | 4792.3 | 4642.5 | 4549.0 |
| 77.5° | 5070.8 | 4359.0 | 3776.9 | 3258.2 | 2848.0 | 2572.6 | 2378.6 | 2252.9 |
| 80° | 2775.7 | 2111.1 | 1543.1 | 1084.7 | 797.2 | 662.5 | 585.1 | 547.9 |
| 82.5° | 864.6 | 557.9 | 411.2 | 354.9 | 329.7 | 315.7 | 292.5 | 255.3 |
| 85° | 275.5 | 241.3 | 224.2 | 214.1 | 204.1 | 177.9 | 122.6 | 111.6 |
| 87.5° | 106.6 | 109.6 | 108.6 | 102.5 | 104.6 | 75.4 | 60.3 | 53.3 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)