

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: LUMARK

Report Number: P395094

Luminaire Tested: **LAS45S-T4**

Issue Date: 5/3/2020

Test Information

Test Method: LM-79-08
Report Number: P395094
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2004-740-10)
Test Lab: INNOVATION CENTER
Issue Date: 5/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: LUMARK
Catalog Number: LAS45S-T4
Description: AREA SITE SMALL HOUSING, TYPE IV
Light Source: (168) 4000K CCT, 70 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 19720 lumens
Efficiency: N/A
Efficacy: 129.1 lumens/watt
Luminous Opening: Rectangular (W 0.71' x L: 0.6' x H: 0')
IES Classification: Type IV - Medium - Non-Cutoff
BUG Rating: B3 - U0 - G3

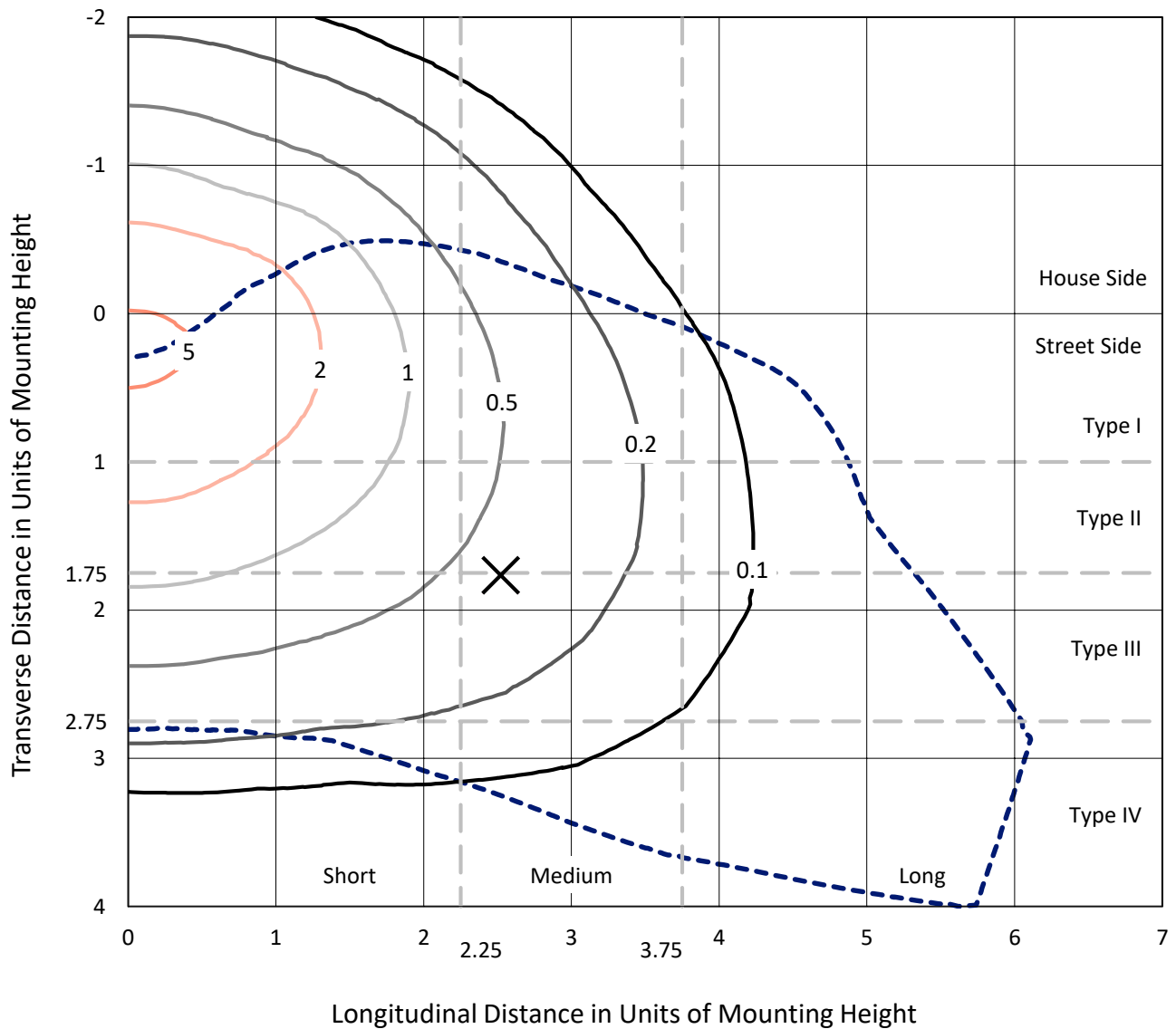
Input Watts (W): 152.7
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

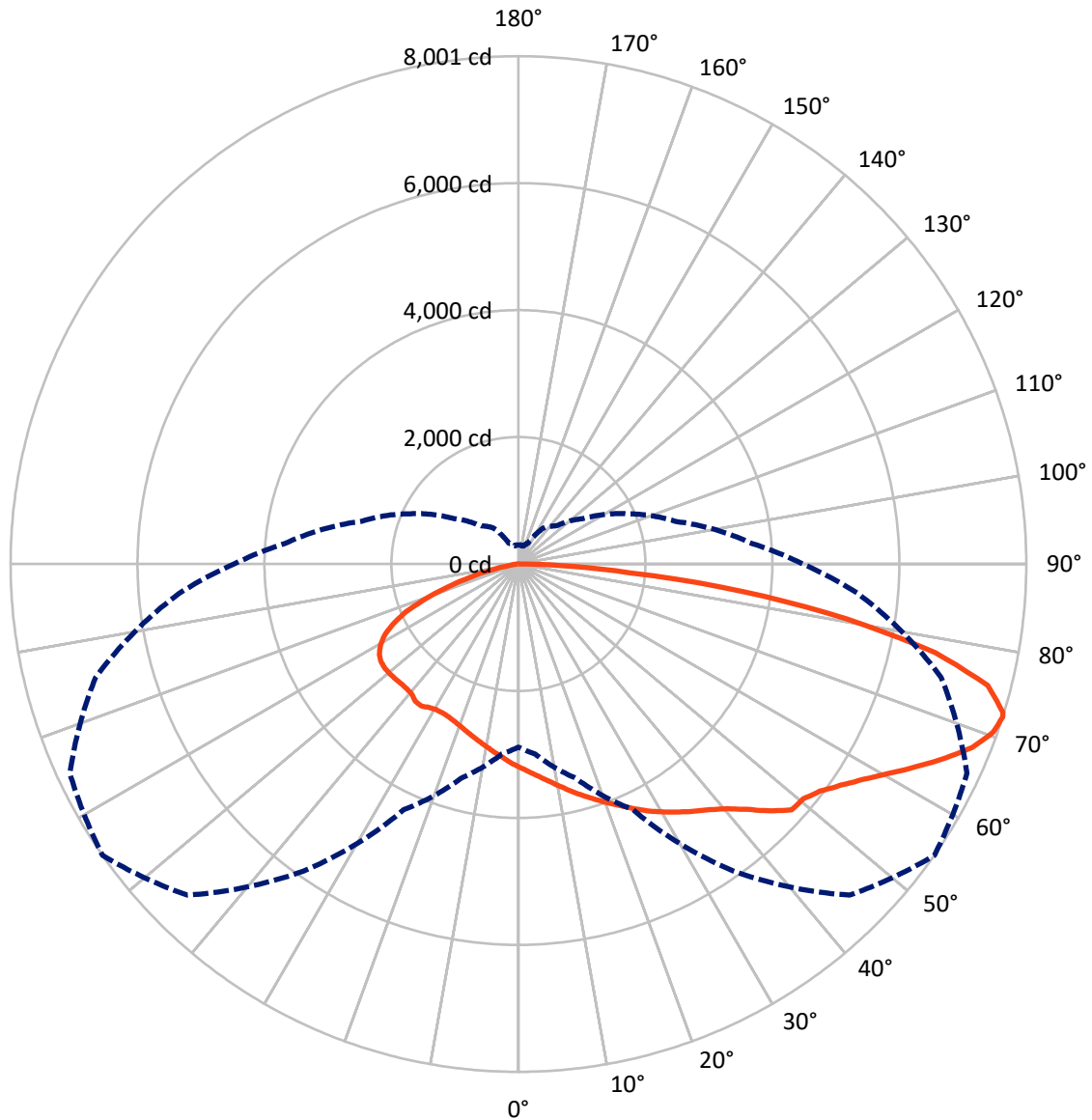
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 5.7 fc
 Type IV - Medium - Non-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 55-Deg Lateral - - - Horizontal Cone Through 72-Deg Vertical

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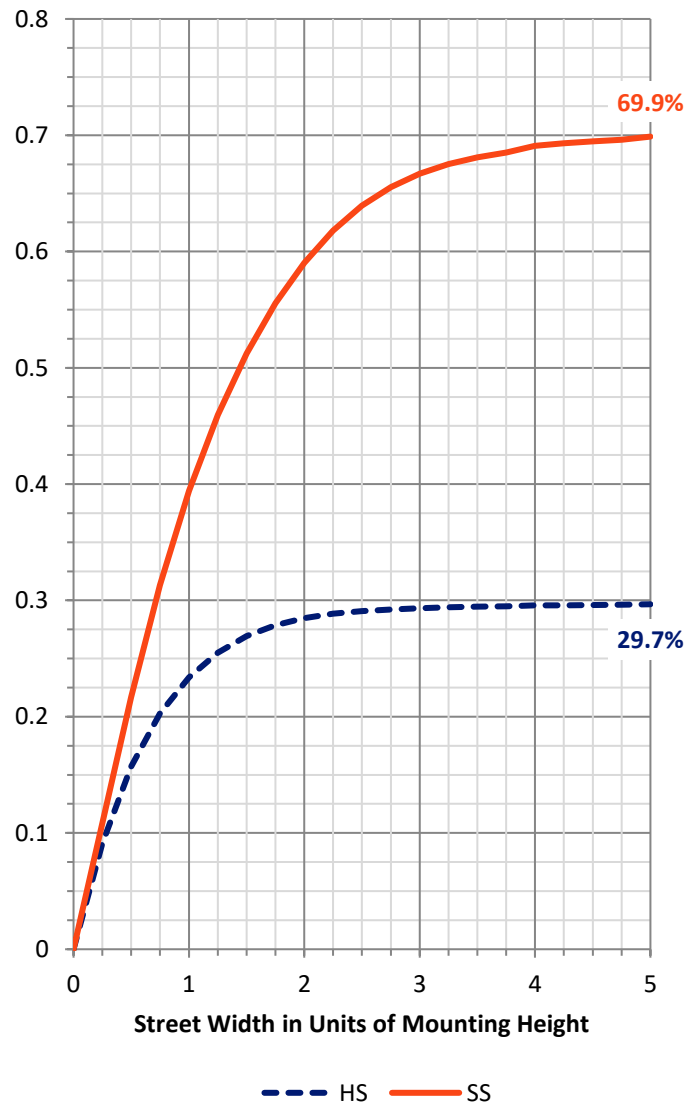
FLUX DISTRIBUTION:

| | | Downward | Upward | Total |
|--------------------|-----------|----------|--------|---------|
| House Side | Lumens | 5887.0 | 0.0 | 5887.0 |
| | % Fixture | 29.9 | 0.0 | 29.9 |
| Street Side | Lumens | 13833.0 | 0.0 | 13833.0 |
| | % Fixture | 70.1 | 0.0 | 70.1 |
| Total | Lumens | 19720.0 | 0.0 | 19720.0 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

Coefficient of Utilization

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|---------|-----------|
| 0°-10° | 306.9 | 1.6 |
| 10°-20° | 932.5 | 4.7 |
| 20°-30° | 1594.5 | 8.1 |
| 30°-40° | 2311.0 | 11.7 |
| 40°-50° | 3100.4 | 15.7 |
| 50°-60° | 3800.1 | 19.3 |
| 60°-70° | 4248.7 | 21.5 |
| 70°-80° | 2911.5 | 14.8 |
| 80°-90° | 514.4 | 2.6 |
| 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° | 19720.0 | 100.0 |
| 0°-180° | 19720.0 | 100.0 |



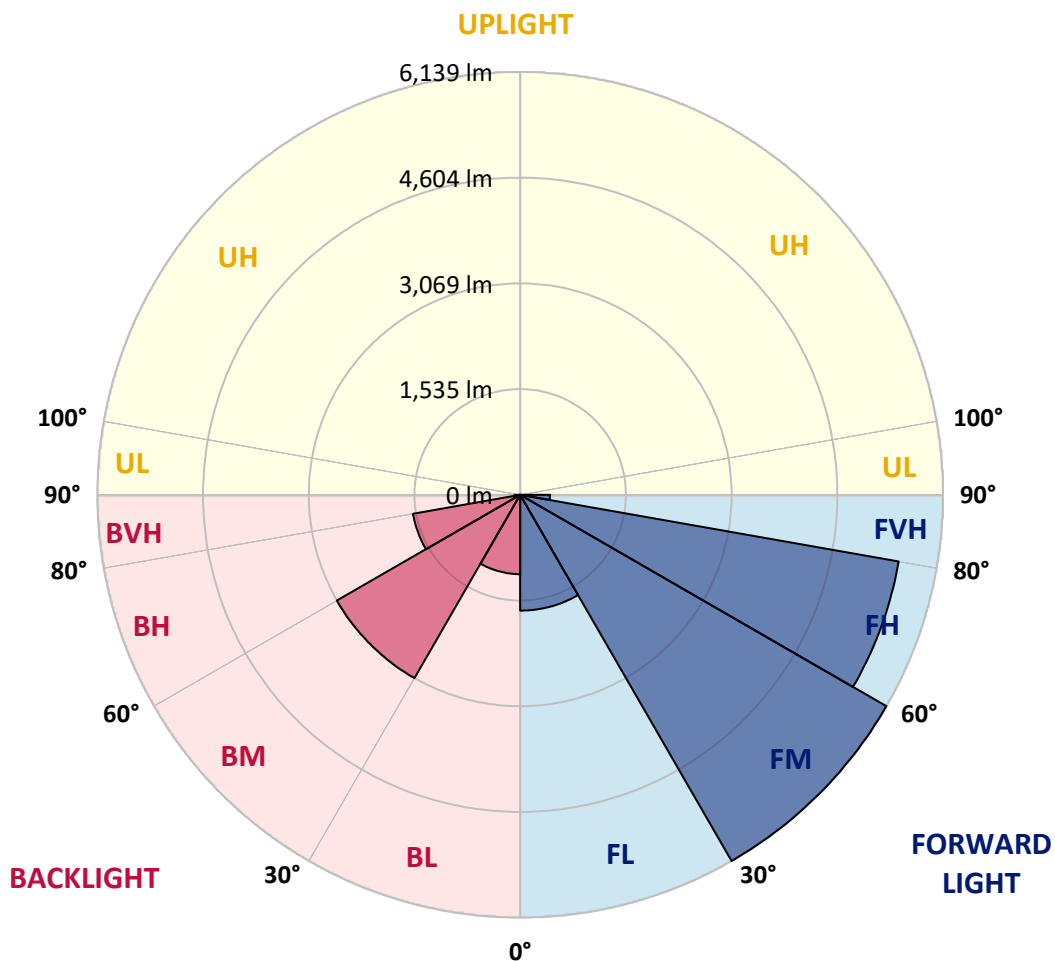
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | Lumens | % Fixture | Zone Rating/Lumen Limit | | |
|----------------|--------|-----------|-------------------------|------|---------|
| | | | B | U | G |
| FL (0°-30°) | 1681.4 | 8.5 | | | |
| FM (30°-60°) | 6138.5 | 31.1 | | | |
| FH (60°-80°) | 5579.7 | 28.3 | | | G3/7500 |
| FVH (80°-90°) | 433.3 | 2.2 | | | G3/500 |
| BL (0°-30°) | 1152.5 | 5.8 | B3/2500 | | |
| BM (30°-60°) | 3073.0 | 15.6 | B3/5000 | | |
| BH (60°-80°) | 1580.4 | 8.0 | B3/2500 | | G3/2500 |
| BVH (80°-90°) | 81.1 | 0.4 | | | G1/100 |
| UL (90°-100°) | 0.0 | 0.0 | | U0/0 | |
| UH (100°-180°) | 0.0 | 0.0 | | U0/0 | |

BUG Rating: B3-U0-G3

Type IV Medium





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CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 15° | 25° | 35° | 45° | 55° | 65° | 75° | 85° | 90° |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 3205.0 | 3205.0 | 3205.0 | 3205.0 | 3205.0 | 3205.0 | 3205.0 | 3205.0 | 3205.0 | 3205.0 | 3205.0 |
| 2.5° | 3326.3 | 3313.6 | 3314.2 | 3309.5 | 3296.8 | 3285.3 | 3277.2 | 3255.8 | 3239.7 | 3221.8 | 3209.7 |
| 5° | 3458.5 | 3445.8 | 3436.0 | 3425.6 | 3410.6 | 3388.0 | 3359.8 | 3324.5 | 3286.4 | 3247.2 | 3223.5 |
| 7.5° | 3587.2 | 3575.7 | 3564.1 | 3548.5 | 3527.2 | 3493.7 | 3452.1 | 3401.3 | 3343.6 | 3283.0 | 3248.9 |
| 10° | 3708.4 | 3702.7 | 3692.8 | 3671.5 | 3644.9 | 3607.4 | 3557.8 | 3493.7 | 3415.8 | 3334.4 | 3285.3 |
| 12.5° | 3821.6 | 3825.0 | 3817.0 | 3799.1 | 3769.6 | 3723.4 | 3668.6 | 3591.2 | 3500.6 | 3389.8 | 3331.5 |
| 15° | 3941.7 | 3931.3 | 3927.8 | 3913.9 | 3892.0 | 3845.8 | 3782.9 | 3692.8 | 3593.6 | 3464.8 | 3389.8 |
| 17.5° | 4051.9 | 4039.8 | 4036.3 | 4022.5 | 3991.9 | 3956.7 | 3896.6 | 3802.0 | 3690.5 | 3541.6 | 3461.9 |
| 20° | 4146.6 | 4144.3 | 4136.2 | 4129.8 | 4102.7 | 4064.0 | 4013.8 | 3926.1 | 3802.5 | 3643.8 | 3543.3 |
| 22.5° | 4251.1 | 4238.4 | 4241.8 | 4223.9 | 4206.6 | 4184.1 | 4140.8 | 4057.7 | 3922.6 | 3745.4 | 3636.9 |
| 25° | 4335.9 | 4329.0 | 4326.7 | 4318.6 | 4312.8 | 4305.9 | 4273.0 | 4198.5 | 4050.2 | 3864.9 | 3740.8 |
| 27.5° | 4400.0 | 4395.4 | 4411.0 | 4409.8 | 4431.2 | 4431.8 | 4409.3 | 4329.6 | 4190.5 | 3982.6 | 3849.9 |
| 30° | 4464.7 | 4463.5 | 4491.2 | 4509.1 | 4532.2 | 4552.4 | 4533.4 | 4465.8 | 4319.2 | 4113.1 | 3973.4 |
| 32.5° | 4542.0 | 4538.6 | 4570.3 | 4599.2 | 4633.8 | 4668.4 | 4657.5 | 4596.3 | 4461.2 | 4246.5 | 4096.9 |
| 35° | 4620.0 | 4622.3 | 4656.9 | 4687.5 | 4737.7 | 4782.8 | 4782.2 | 4737.7 | 4609.6 | 4396.6 | 4236.1 |
| 37.5° | 4710.6 | 4715.2 | 4738.9 | 4781.6 | 4842.2 | 4888.4 | 4908.6 | 4875.1 | 4762.0 | 4562.8 | 4405.8 |
| 40° | 4930.0 | 4917.8 | 4973.3 | 4991.7 | 5021.7 | 5041.4 | 5066.2 | 5041.9 | 4948.4 | 4748.7 | 4602.6 |
| 42.5° | 5152.8 | 5177.0 | 5243.4 | 5244.6 | 5272.3 | 5281.5 | 5282.7 | 5245.7 | 5150.5 | 4963.4 | 4786.8 |
| 45° | 5131.4 | 5156.8 | 5256.7 | 5321.9 | 5458.2 | 5540.1 | 5545.9 | 5494.0 | 5390.6 | 5110.6 | 4860.7 |
| 47.5° | 5133.7 | 5163.2 | 5248.0 | 5274.6 | 5447.2 | 5663.1 | 5791.8 | 5771.1 | 5604.8 | 5209.4 | 4958.8 |
| 50° | 5204.2 | 5239.4 | 5320.2 | 5287.3 | 5406.8 | 5618.6 | 5814.3 | 5871.5 | 5674.1 | 5327.1 | 5084.1 |
| 52.5° | 5320.2 | 5350.2 | 5439.1 | 5387.7 | 5471.4 | 5693.1 | 5946.0 | 6022.2 | 5844.9 | 5480.1 | 5212.2 |
| 55° | 5445.5 | 5483.6 | 5562.7 | 5541.9 | 5626.7 | 5876.1 | 6154.9 | 6243.3 | 6056.2 | 5630.2 | 5322.5 |
| 57.5° | 5595.6 | 5613.5 | 5718.5 | 5732.4 | 5836.9 | 6106.5 | 6401.4 | 6479.9 | 6259.4 | 5753.7 | 5406.8 |
| 60° | 5683.9 | 5702.4 | 5836.9 | 5918.3 | 6103.0 | 6408.4 | 6700.5 | 6762.2 | 6470.1 | 5850.7 | 5459.3 |
| 62.5° | 5805.1 | 5821.3 | 5919.4 | 6073.0 | 6393.4 | 6746.7 | 7031.8 | 7053.2 | 6678.0 | 5926.3 | 5457.6 |
| 65° | 5847.8 | 5848.4 | 5954.6 | 6202.3 | 6628.3 | 7098.8 | 7379.9 | 7334.9 | 6869.0 | 5928.6 | 5370.4 |
| 67.5° | 5284.4 | 5349.1 | 5542.4 | 6105.3 | 6781.3 | 7404.7 | 7709.6 | 7594.1 | 6988.0 | 5838.6 | 5169.5 |
| 70° | 4252.2 | 4231.5 | 4523.0 | 5361.2 | 6567.7 | 7532.9 | 7935.8 | 7756.9 | 6987.4 | 5629.6 | 4825.5 |
| 72° | 2885.2 | 3004.7 | 3493.7 | 4270.1 | 5902.7 | 7375.9 | 8000.5 | 7797.3 | 6895.0 | 5372.7 | 4477.9 |
| 72.5° | 2600.6 | 2691.8 | 3080.9 | 3975.1 | 5734.1 | 7291.6 | 7979.7 | 7789.8 | 6855.8 | 5275.2 | 4368.3 |
| 75° | 854.9 | 967.5 | 1378.0 | 2286.6 | 4260.9 | 6404.9 | 7633.9 | 7623.5 | 6458.6 | 4732.5 | 3761.5 |
| 77.5° | 337.1 | 342.9 | 382.7 | 875.7 | 2548.1 | 5059.8 | 6710.9 | 6930.2 | 5330.0 | 3901.2 | 2970.1 |
| 80° | 244.8 | 239.0 | 247.1 | 318.1 | 1010.2 | 3337.8 | 5246.9 | 5439.7 | 3172.1 | 2623.7 | 2077.0 |
| 82.5° | 168.6 | 166.3 | 169.7 | 202.0 | 419.7 | 1832.3 | 3575.1 | 3143.3 | 1136.1 | 1172.5 | 1184.0 |
| 85° | 94.1 | 95.8 | 94.7 | 114.3 | 222.3 | 805.3 | 1762.4 | 1251.0 | 176.1 | 211.3 | 491.3 |
| 87.5° | 35.2 | 35.8 | 36.9 | 41.6 | 77.4 | 224.0 | 636.7 | 203.8 | 30.0 | 30.0 | 77.9 |
| 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):

| | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 3205.0 | 3205.0 | 3205.0 | 3205.0 | 3205.0 | 3205.0 | 3205.0 | 3205.0 | 3205.0 | 3205.0 |
| 2.5° | 3201.6 | 3179.6 | 3154.8 | 3138.7 | 3116.7 | 3105.8 | 3091.3 | 3091.3 | 3085.0 | 3079.8 |
| 5° | 3202.7 | 3153.7 | 3104.6 | 3061.3 | 3027.2 | 2994.3 | 2967.2 | 2947.6 | 2944.7 | 2938.3 |
| 7.5° | 3212.6 | 3139.2 | 3062.5 | 2995.5 | 2937.2 | 2884.7 | 2841.4 | 2817.1 | 2801.5 | 2790.6 |
| 10° | 3233.9 | 3133.5 | 3028.4 | 2929.1 | 2844.3 | 2776.7 | 2721.3 | 2692.4 | 2675.1 | 2671.1 |
| 12.5° | 3268.0 | 3132.9 | 2996.1 | 2870.8 | 2762.3 | 2681.5 | 2623.7 | 2585.6 | 2572.4 | 2562.5 |
| 15° | 3308.4 | 3141.0 | 2971.3 | 2815.4 | 2687.2 | 2592.0 | 2532.5 | 2493.3 | 2473.6 | 2469.6 |
| 17.5° | 3363.8 | 3161.2 | 2951.6 | 2763.4 | 2616.2 | 2510.6 | 2447.7 | 2407.8 | 2389.9 | 2387.0 |
| 20° | 3432.5 | 3188.9 | 2938.9 | 2717.2 | 2554.5 | 2442.5 | 2368.6 | 2326.4 | 2311.4 | 2311.4 |
| 22.5° | 3511.6 | 3227.6 | 2933.7 | 2676.8 | 2496.7 | 2377.2 | 2300.5 | 2261.8 | 2252.5 | 2249.1 |
| 25° | 3597.0 | 3281.8 | 2942.4 | 2648.0 | 2444.2 | 2319.5 | 2243.3 | 2202.9 | 2186.7 | 2184.4 |
| 27.5° | 3696.3 | 3346.5 | 2964.9 | 2631.8 | 2405.5 | 2264.7 | 2190.2 | 2141.7 | 2127.3 | 2120.3 |
| 30° | 3806.0 | 3424.4 | 3004.7 | 2635.3 | 2384.7 | 2224.3 | 2129.6 | 2086.9 | 2065.5 | 2057.4 |
| 32.5° | 3929.0 | 3521.4 | 3070.0 | 2663.6 | 2382.4 | 2193.1 | 2081.1 | 2022.8 | 1999.7 | 1998.0 |
| 35° | 4064.6 | 3643.2 | 3168.1 | 2712.1 | 2381.3 | 2153.8 | 2024.5 | 1963.9 | 1950.0 | 1950.6 |
| 37.5° | 4240.7 | 3802.0 | 3257.0 | 2702.8 | 2306.2 | 2077.0 | 1960.4 | 1920.6 | 1908.5 | 1906.8 |
| 40° | 4421.4 | 3895.5 | 3232.2 | 2646.2 | 2243.9 | 2013.5 | 1912.5 | 1881.4 | 1875.6 | 1872.1 |
| 42.5° | 4525.3 | 3900.1 | 3245.5 | 2635.9 | 2207.5 | 1977.2 | 1876.7 | 1847.3 | 1838.1 | 1835.2 |
| 45° | 4580.1 | 3969.9 | 3305.5 | 2639.9 | 2183.8 | 1948.3 | 1842.1 | 1810.9 | 1794.8 | 1791.3 |
| 47.5° | 4688.1 | 4060.0 | 3367.8 | 2651.4 | 2169.4 | 1909.6 | 1804.6 | 1769.4 | 1752.6 | 1753.2 |
| 50° | 4801.8 | 4143.7 | 3417.5 | 2663.6 | 2152.7 | 1875.6 | 1764.7 | 1723.8 | 1711.6 | 1707.0 |
| 52.5° | 4902.2 | 4208.9 | 3440.6 | 2667.0 | 2131.9 | 1840.4 | 1716.8 | 1670.6 | 1655.6 | 1652.2 |
| 55° | 4977.9 | 4240.1 | 3429.0 | 2657.8 | 2102.4 | 1794.2 | 1660.8 | 1605.4 | 1586.9 | 1583.5 |
| 57.5° | 5022.9 | 4224.5 | 3367.8 | 2612.2 | 2054.5 | 1737.0 | 1588.1 | 1517.1 | 1492.8 | 1489.4 |
| 60° | 5016.5 | 4136.2 | 3239.7 | 2521.0 | 1977.8 | 1644.7 | 1467.4 | 1386.0 | 1354.3 | 1349.1 |
| 62.5° | 4942.7 | 3970.5 | 3067.7 | 2390.5 | 1855.4 | 1490.5 | 1311.0 | 1212.3 | 1162.6 | 1147.1 |
| 65° | 4785.1 | 3725.8 | 2851.8 | 2176.9 | 1641.8 | 1286.2 | 1104.3 | 987.1 | 853.8 | 822.6 |
| 67.5° | 4516.0 | 3389.8 | 2556.2 | 1924.6 | 1379.1 | 1077.2 | 906.9 | 622.9 | 487.2 | 456.6 |
| 70° | 4088.3 | 2933.2 | 2191.9 | 1556.3 | 1069.1 | 856.1 | 614.2 | 345.2 | 336.6 | 337.7 |
| 72° | 3692.8 | 2580.4 | 1873.3 | 1248.7 | 852.6 | 695.6 | 368.3 | 292.1 | 301.9 | 297.9 |
| 72.5° | 3576.2 | 2481.1 | 1805.7 | 1164.9 | 799.5 | 658.7 | 327.9 | 282.9 | 288.6 | 293.3 |
| 75° | 3012.2 | 1937.9 | 1299.5 | 798.4 | 592.9 | 440.5 | 243.6 | 240.7 | 248.2 | 250.0 |
| 77.5° | 2282.0 | 1381.4 | 834.2 | 506.3 | 394.9 | 251.1 | 195.1 | 195.1 | 202.6 | 203.8 |
| 80° | 1500.3 | 852.1 | 347.5 | 200.3 | 248.2 | 165.7 | 144.3 | 147.8 | 156.4 | 159.9 |
| 82.5° | 949.0 | 459.5 | 103.9 | 105.1 | 126.4 | 108.5 | 97.6 | 101.6 | 109.1 | 109.7 |
| 85° | 462.4 | 94.1 | 56.0 | 57.2 | 58.3 | 58.9 | 50.8 | 54.3 | 56.0 | 54.3 |
| 87.5° | 113.7 | 23.7 | 21.4 | 23.1 | 18.5 | 15.6 | 15.6 | 13.3 | 9.2 | 9.8 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)