

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: P195195

Luminaire Tested: **NAV-AF-03-D-UNV-SL4-7060-600-HSS**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P195195  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24285)  
Test Lab: INNOVATION CENTER P2  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: LUMARK  
Catalog Number: NAV-AF-03-D-UNV-SL4-7060-600-HSS  
Description: NAVION ROADWAY AND AREA LUMINAIRE  
(3) 70 CRI, 5700K, 615mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV SPILL  
LIGHT ELIMINATOR OPTICS WITH HOUSE SIDE SHIELD  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 9722 lumens  
Efficiency: N/A  
Efficacy: 101.3 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 1.5' x H: 0')  
IES Classification: Type IV - Short - Non-Cutoff  
BUG Rating: B1 - U0 - G2

Input Watts (W): 96  
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

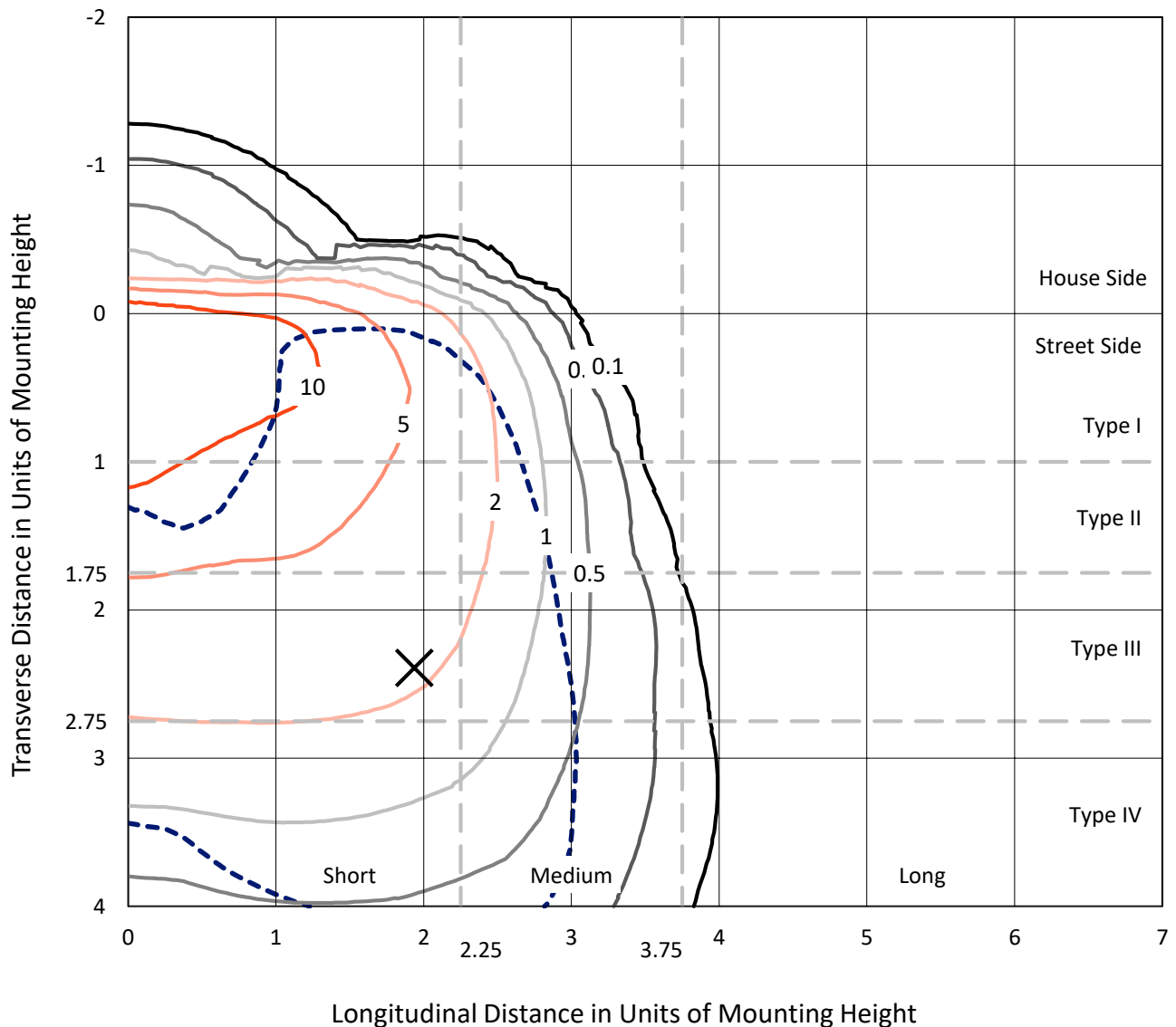


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### Iso-Footcandle Lines of Horizontal Illumination

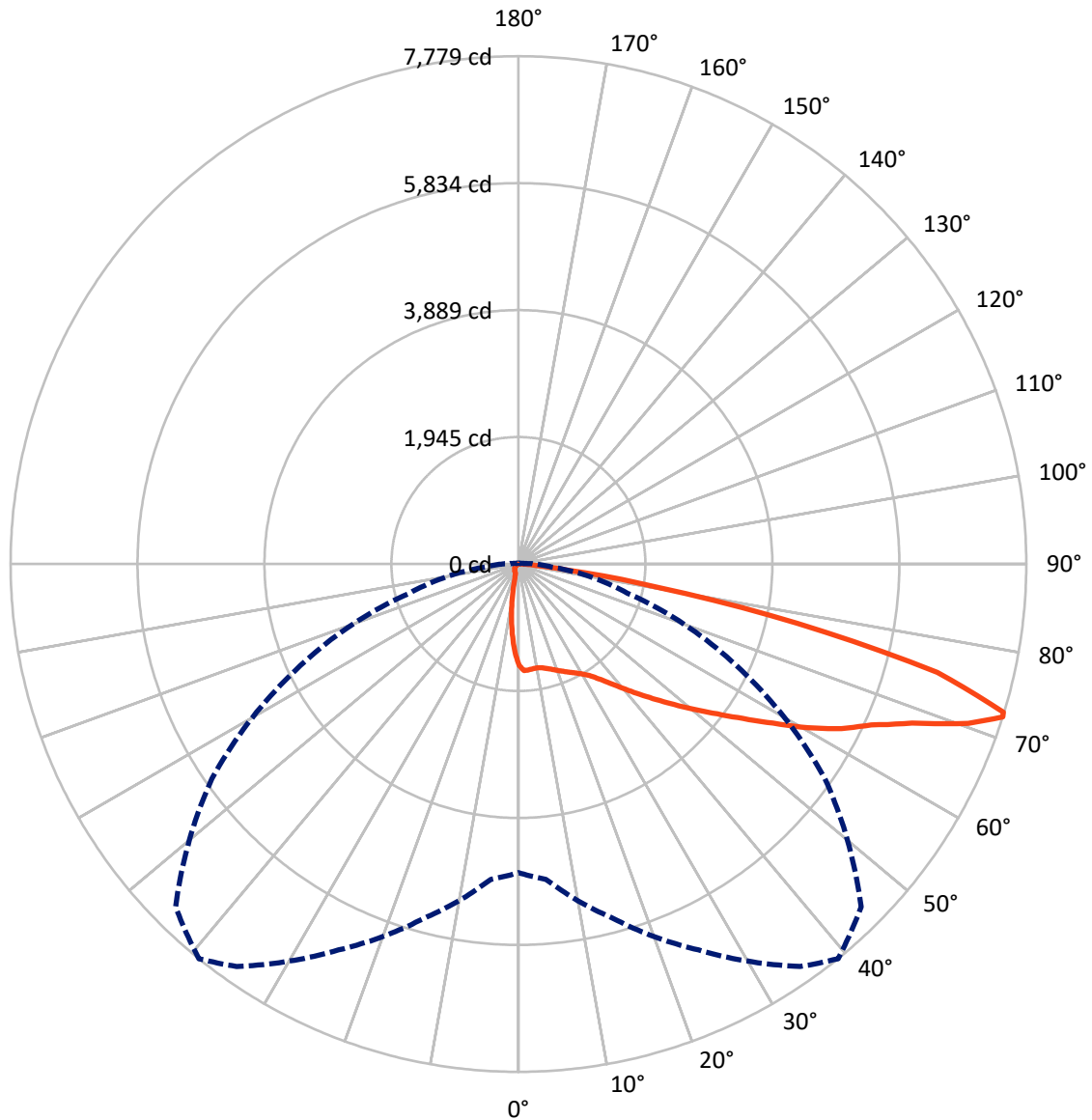
× Max cd  
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 16.3 fc  
 Type IV - Short - Non-Cutoff

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### Luminous Intensity Polar Plot



— Vertical Plane Through 39-Deg Lateral      - - - Horizontal Cone Through 72-Deg Vertical

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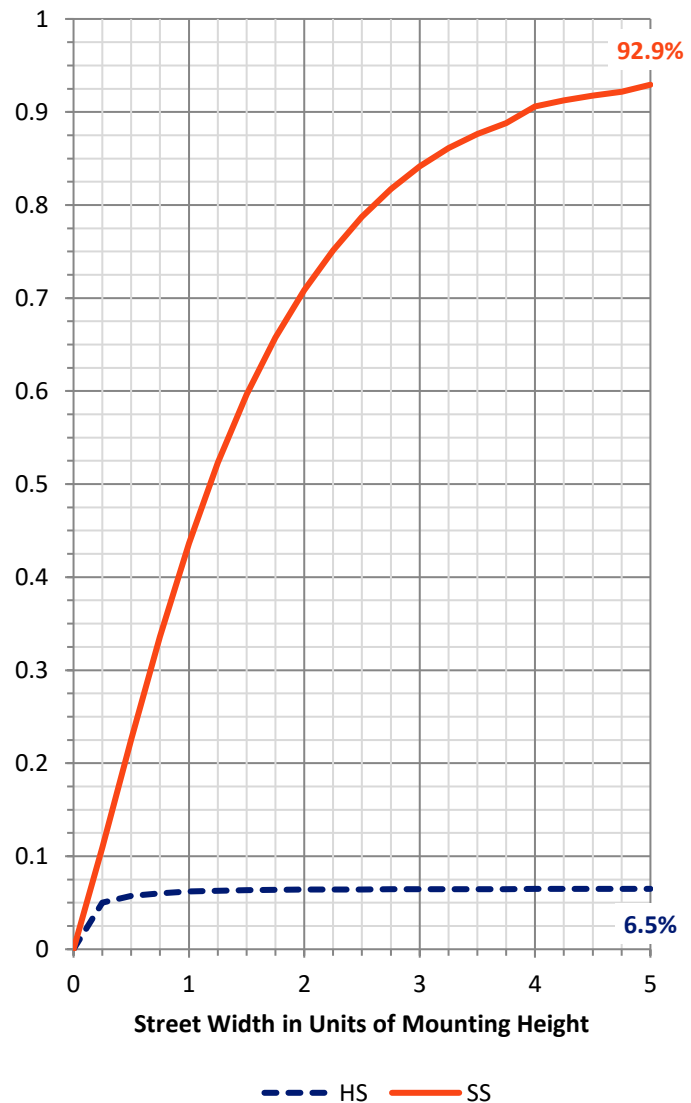
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	637.2	0.0	637.2
	% Fixture	6.6	0.0	6.6
<b>Street Side</b>	Lumens	9084.8	0.0	9084.8
	% Fixture	93.4	0.0	93.4
<b>Total</b>	Lumens	9722.0	0.0	9722.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	126.6	1.3
10°-20°	306.4	3.2
20°-30°	508.9	5.2
30°-40°	811.1	8.3
40°-50°	1338.8	13.8
50°-60°	2021.8	20.8
60°-70°	2633.8	27.1
70°-80°	1779.7	18.3
80°-90°	194.9	2.0
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°	9722.0	100.0
0°-180°	9722.0	100.0

**Coefficient of Utilization**



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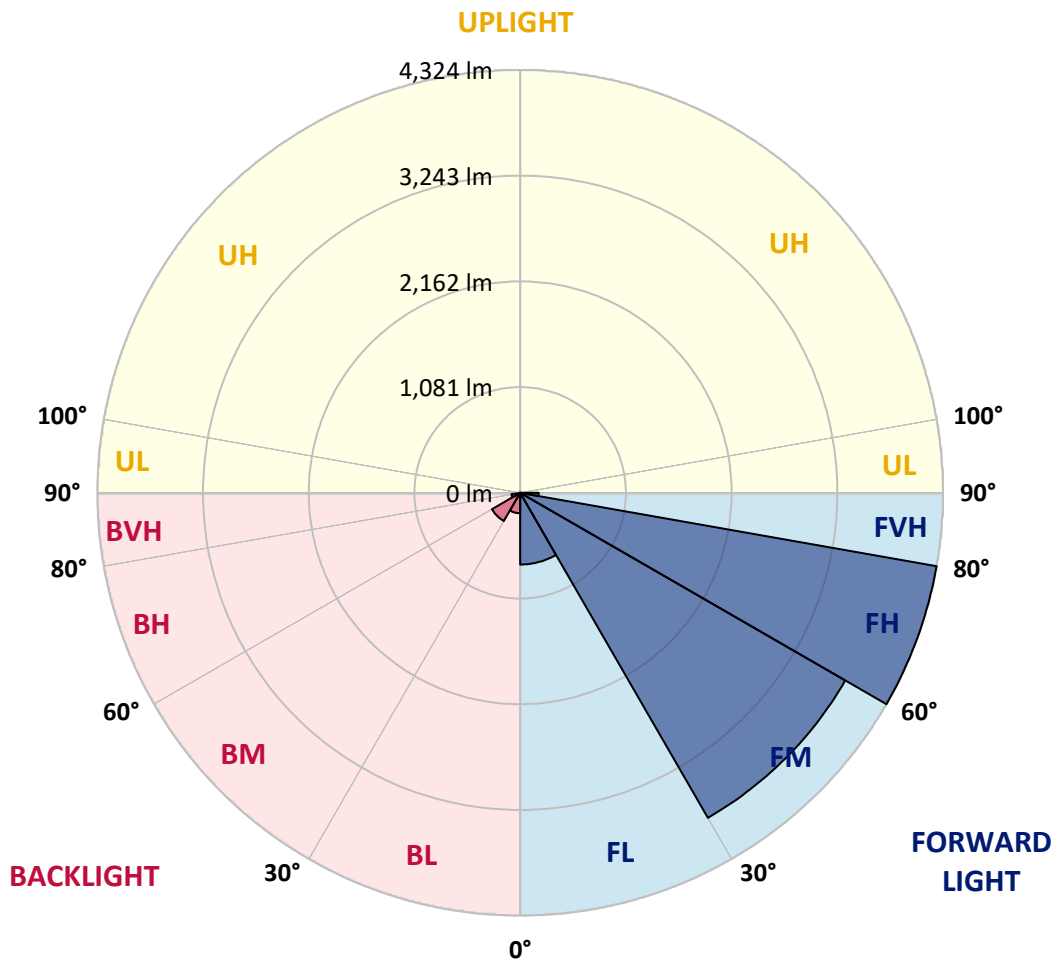
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	733.3	7.5			
FM (30°-60°)	3838.4	39.5			
FH (60°-80°)	4323.9	44.5			G2/5000
FVH (80°-90°)	189.3	1.9			G2/225
BL (0°-30°)	208.6	2.1	B1/500		
BM (30°-60°)	333.4	3.4	B1/1000		
BH (60°-80°)	89.6	0.9	B0/110		G0/110
BVH (80°-90°)	5.6	0.1			G0/10
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B1-U0-G2**

Type IV Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	39°	45°	55°	65°	75°	85°
0°	1556.1	1556.1	1556.1	1556.1	1556.1	1556.1	1556.1	1556.1	1556.1	1556.1	1556.1
2.5°	1657.0	1660.0	1656.2	1649.3	1639.4	1633.3	1624.9	1606.5	1583.6	1563.7	1540.8
5°	1669.9	1671.5	1666.9	1653.9	1638.6	1630.2	1619.5	1599.6	1575.9	1548.4	1507.2
7.5°	1673.8	1673.0	1667.7	1651.6	1627.9	1617.2	1598.9	1574.4	1550.0	1524.7	1478.1
10°	1672.2	1672.2	1668.4	1653.1	1626.4	1616.4	1595.8	1569.8	1539.3	1514.0	1464.4
12.5°	1666.9	1669.9	1667.7	1659.2	1639.4	1631.7	1613.4	1587.4	1558.4	1532.4	1479.6
15°	1673.8	1678.4	1682.9	1679.9	1668.4	1661.5	1644.7	1618.0	1594.3	1566.8	1510.2
17.5°	1701.3	1711.2	1721.9	1722.7	1710.5	1698.2	1679.1	1651.6	1628.7	1603.5	1542.3
20°	1753.3	1760.9	1780.8	1784.6	1760.1	1742.6	1715.8	1683.7	1660.8	1639.4	1572.1
22.5°	1830.4	1838.9	1854.9	1849.6	1808.3	1787.6	1754.0	1717.3	1693.6	1681.4	1606.5
25°	1947.4	1949.7	1953.5	1929.8	1861.8	1838.9	1797.6	1756.3	1737.2	1735.7	1655.4
27.5°	2084.9	2088.0	2071.2	2018.5	1921.4	1891.6	1845.0	1807.5	1798.3	1809.8	1717.3
30°	2242.4	2243.2	2196.5	2110.9	1990.2	1957.3	1909.2	1867.9	1876.3	1904.6	1796.8
32.5°	2403.7	2396.0	2331.8	2220.2	2084.2	2044.4	2003.2	1961.9	1986.4	2043.7	1913.0
35°	2551.2	2548.1	2472.4	2342.5	2206.5	2171.3	2141.5	2097.9	2137.7	2230.9	2071.2
37.5°	2698.7	2696.4	2610.0	2474.7	2357.0	2331.8	2309.6	2276.0	2341.0	2477.8	2282.9
40°	2861.5	2857.6	2751.4	2621.5	2532.1	2518.3	2505.3	2490.8	2601.6	2791.9	2546.6
42.5°	3062.5	3045.6	2901.2	2781.2	2724.6	2728.5	2729.2	2743.8	2917.2	3165.6	2857.6
45°	3293.3	3255.8	3051.8	2952.4	2936.4	2959.3	2982.2	3042.6	3284.9	3595.9	3201.6
47.5°	3517.2	3456.8	3225.3	3136.6	3169.5	3216.8	3271.9	3389.6	3697.6	4046.1	3513.4
50°	3709.8	3647.9	3397.2	3323.8	3428.5	3498.9	3596.7	3774.8	4133.2	4426.7	3709.8
52.5°	3861.1	3812.2	3579.1	3530.2	3715.9	3812.2	3965.8	4199.7	4544.4	4677.4	3847.4
55°	3972.7	3948.3	3753.4	3760.2	4035.4	4174.5	4365.6	4630.0	4891.4	4872.3	3950.6
57.5°	4098.8	4079.7	3936.0	4031.6	4419.8	4599.4	4820.3	5032.8	5143.6	5028.9	4051.4
60°	4228.0	4234.1	4157.7	4360.2	4895.2	5093.9	5286.5	5339.2	5359.9	5187.9	4157.7
62.5°	4325.8	4351.8	4358.7	4714.8	5382.8	5552.5	5635.8	5598.3	5593.7	5401.1	4149.3
65°	4438.2	4506.2	4619.3	5103.8	5826.1	5937.7	5997.3	6051.5	5936.9	5464.6	3741.1
67.5°	4632.3	4739.3	4993.8	5580.8	6338.2	6503.2	6672.1	6614.8	5988.1	4820.3	2850.0
70°	4893.7	5024.4	5473.8	6203.6	7032.9	7309.5	7450.9	6569.7	5084.0	3330.7	1503.3
72°	4728.6	4847.0	5622.0	6521.6	7525.1	7778.8	7425.0	5730.6	3685.3	1726.5	503.7
72.5°	4568.1	4690.4	5574.6	6517.8	7574.0	7768.1	7256.1	5399.6	3261.2	1343.6	347.0
75°	3169.5	3323.8	4779.0	5859.0	6839.5	6626.3	5551.7	3269.6	1181.6	230.8	114.6
77.5°	1638.6	1757.8	2898.9	4140.1	4766.8	4365.6	3281.0	1418.5	327.1	122.3	75.7
80°	1015.7	1074.6	1355.8	2039.9	2476.3	2166.0	1447.5	573.2	209.4	72.6	60.4
82.5°	525.8	570.9	853.7	823.1	914.8	760.5	534.2	480.0	129.2	45.1	61.9
85°	172.7	183.4	524.3	547.2	391.3	262.9	236.9	457.8	37.4	29.0	52.7
87.5°	22.9	26.7	184.2	313.4	192.6	119.2	142.2	161.3	13.0	16.0	14.5
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°	1556.1	1556.1	1556.1	1556.1	1556.1	1556.1	1556.1	1556.1	1556.1	1556.1	1556.1
2.5°	1525.5	1515.6	1484.2	1452.9	1417.0	1384.1	1358.1	1341.3	1348.9	1323.7	1327.6
5°	1481.9	1456.7	1387.9	1313.8	1233.5	1158.6	1099.0	1054.7	1046.3	1008.1	1009.6
7.5°	1439.9	1398.6	1287.0	1164.8	1031.8	924.0	826.2	740.6	710.0	678.7	660.3
10°	1417.0	1360.4	1202.2	1024.1	836.9	678.7	541.1	433.3	388.3	355.4	339.3
12.5°	1423.8	1348.9	1138.8	896.5	650.4	449.4	305.7	227.0	199.5	184.2	178.8
15°	1446.8	1351.2	1081.5	771.9	473.1	272.1	179.6	153.6	151.3	150.6	149.8
17.5°	1468.2	1353.5	1021.1	642.0	316.4	173.5	144.4	142.2	142.2	142.2	142.2
20°	1490.3	1354.3	954.6	506.0	207.9	142.2	136.0	134.5	136.0	136.0	136.0
22.5°	1516.3	1359.6	890.4	373.7	153.6	133.7	129.9	129.2	129.9	129.9	129.2
25°	1548.4	1371.1	820.8	267.5	139.1	128.4	124.6	123.8	124.6	123.8	123.8
27.5°	1591.2	1386.4	739.8	191.8	133.0	123.0	119.2	119.2	119.2	118.5	118.5
30°	1646.3	1404.7	631.3	151.3	126.9	117.7	114.6	114.6	113.9	113.1	113.1
32.5°	1725.0	1434.5	512.8	136.8	120.0	110.8	107.8	108.5	107.8	107.0	106.2
35°	1836.6	1481.2	395.9	129.2	113.1	103.9	100.9	100.9	100.9	99.4	99.4
37.5°	1994.8	1552.2	296.5	121.5	106.2	97.1	93.2	93.2	92.5	90.9	91.7
40°	2190.4	1641.7	214.8	114.6	99.4	89.4	86.4	84.8	83.3	81.8	81.8
42.5°	2425.8	1728.8	161.3	107.8	92.5	83.3	79.5	78.0	74.9	73.4	72.6
45°	2689.5	1821.3	133.7	99.4	84.8	76.4	73.4	70.3	66.5	64.2	63.4
47.5°	2911.9	1877.8	119.2	90.9	77.2	69.5	66.5	61.9	57.3	55.8	55.8
50°	3045.6	1854.1	107.0	82.5	69.5	62.7	58.8	52.7	49.7	48.1	47.4
52.5°	3120.5	1783.8	97.1	75.7	62.7	55.0	49.7	44.3	42.8	41.3	41.3
55°	3171.8	1682.2	86.4	68.8	56.6	48.1	42.0	38.2	36.7	35.9	35.2
57.5°	3220.7	1558.4	76.4	62.7	50.4	42.8	35.9	34.4	31.3	30.6	30.6
60°	3235.2	1387.9	67.3	55.8	45.1	37.4	31.3	29.0	26.0	25.2	25.2
62.5°	3050.2	1104.4	59.6	47.4	39.7	32.1	27.5	24.5	21.4	21.4	21.4
65°	2548.9	749.8	51.2	41.3	35.2	27.5	23.7	19.9	18.3	18.3	18.3
67.5°	1775.4	418.1	43.6	35.2	29.8	22.9	19.9	16.8	16.0	16.8	16.8
70°	800.2	165.8	36.7	29.0	24.5	19.1	16.8	14.5	16.0	16.0	16.0
72°	240.0	88.7	30.6	23.7	19.9	16.8	14.5	13.8	15.3	16.0	16.0
72.5°	178.1	79.5	29.0	22.9	19.9	16.0	13.8	13.8	15.3	16.0	16.0
75°	91.7	54.3	22.2	16.8	14.5	13.0	11.5	13.0	15.3	15.3	15.3
77.5°	71.8	44.3	18.3	13.0	12.2	11.5	10.7	12.2	13.8	13.8	13.8
80°	67.3	29.0	14.5	12.2	10.7	9.9	9.9	10.7	12.2	13.0	13.0
82.5°	68.0	23.7	13.0	11.5	9.9	9.2	9.2	9.9	11.5	12.2	12.2
85°	43.6	16.0	11.5	9.9	9.2	8.4	8.4	9.2	10.7	11.5	11.5
87.5°	14.5	12.2	9.9	9.2	7.6	7.6	7.6	7.6	9.2	9.9	10.7
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)