

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: P195219

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

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P195219  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24284)  
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  
Description: NAVION ROADWAY AND AREA LUMINAIRE  
(3) 70 CRI, 5700K, 615mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV SPILL  
LIGHT ELIMINATOR OPTICS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 11386 lumens  
Efficiency: N/A  
Efficacy: 118.6 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 - G3

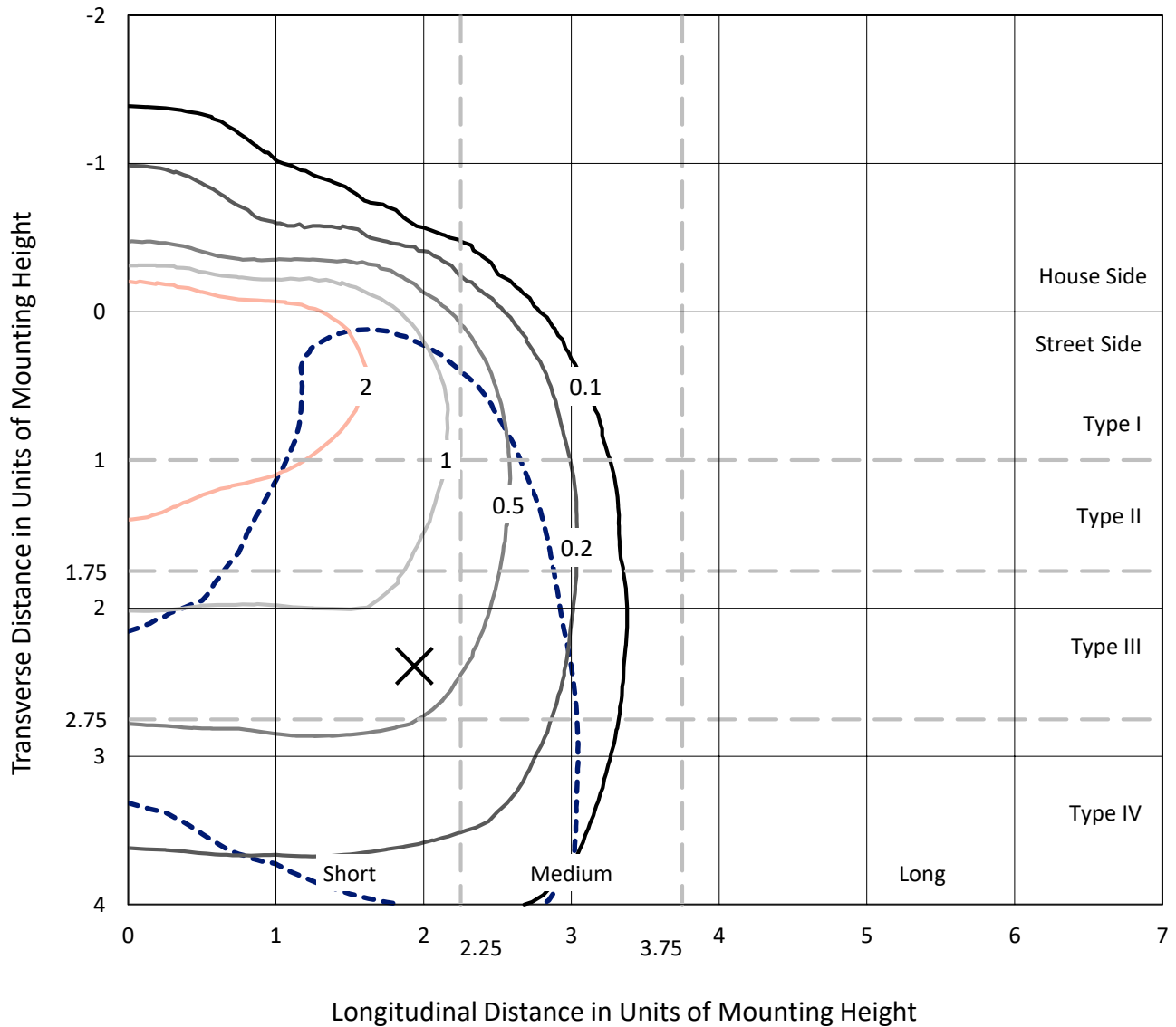
Input Watts (W): 96  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Iso-Footcandle Lines of Horizontal Illumination

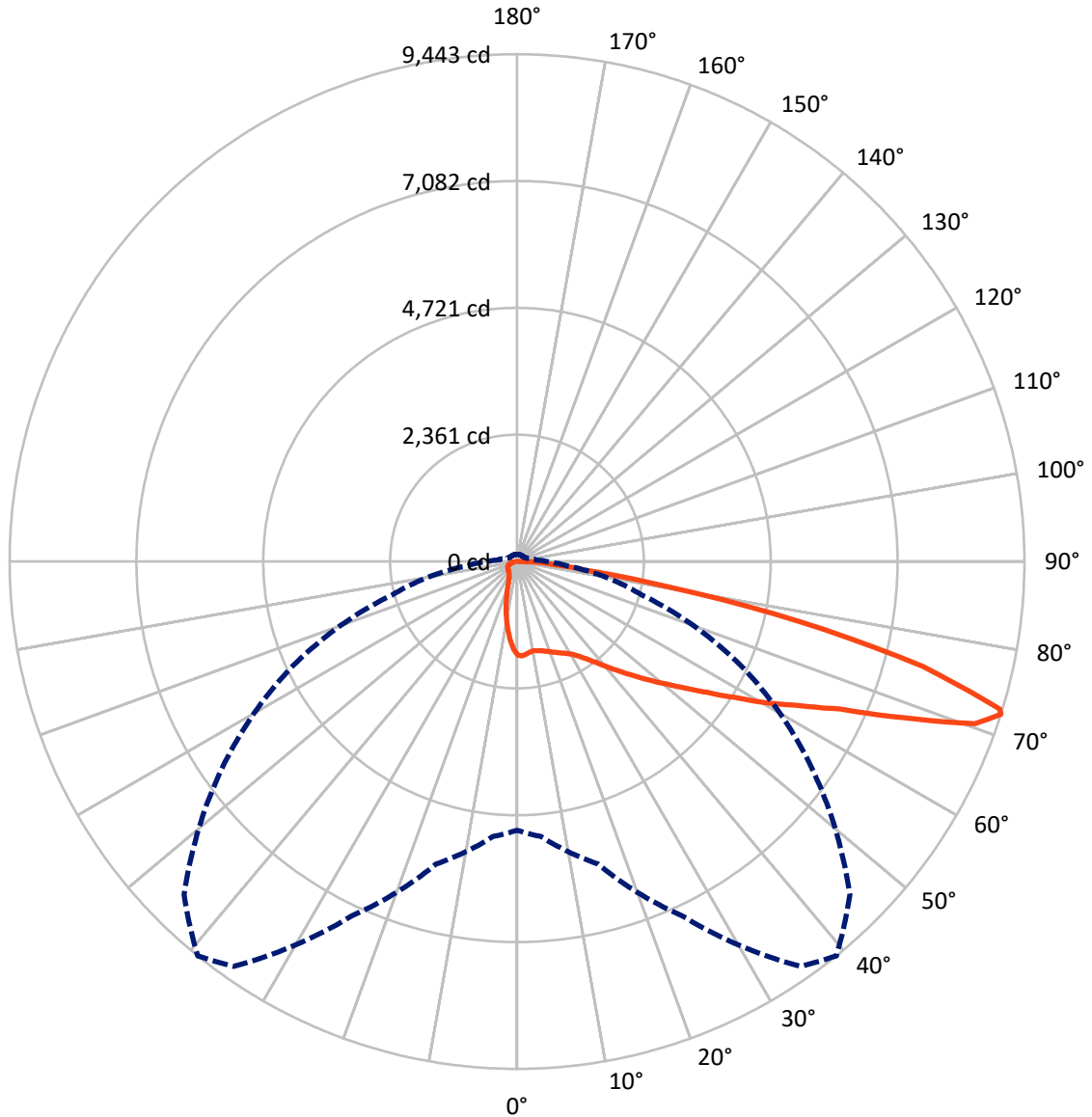
× Max cd  
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 4.3 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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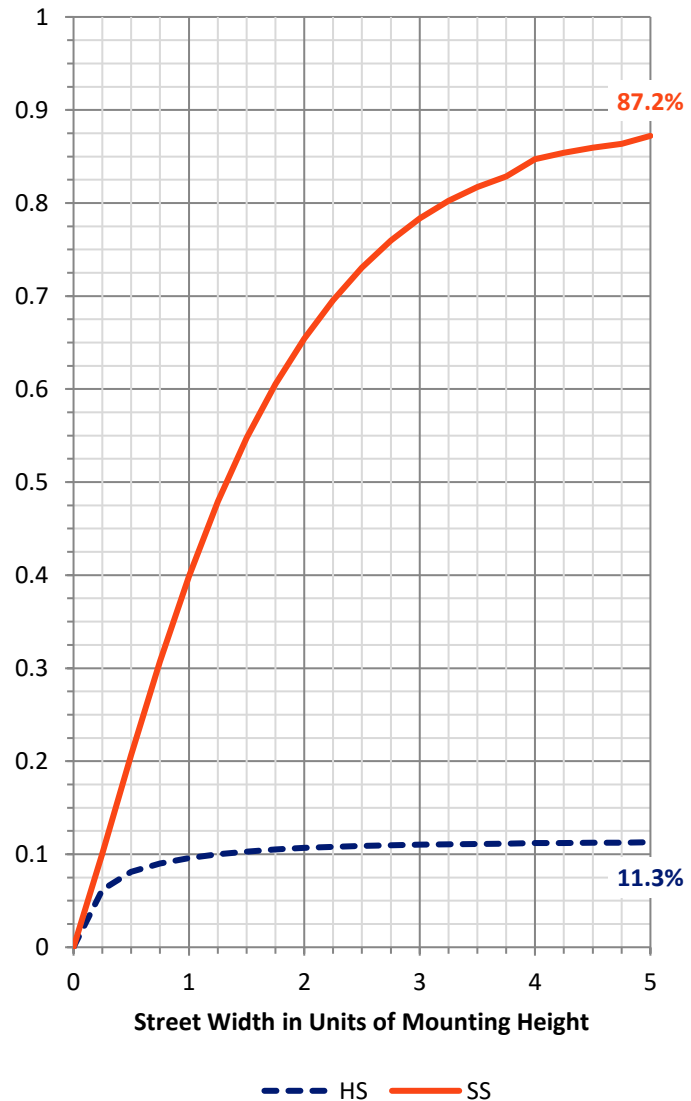
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	1305.6	0.0	1305.6
	% Fixture	11.5	0.0	11.5
<b>Street Side</b>	Lumens	10080.5	0.0	10080.5
	% Fixture	88.5	0.0	88.5
<b>Total</b>	Lumens	11386.0	0.0	11386.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	149.4	1.3
10°-20°	375.5	3.3
20°-30°	585.1	5.1
30°-40°	901.0	7.9
40°-50°	1468.8	12.9
50°-60°	2282.3	20.0
60°-70°	3054.7	26.8
70°-80°	2196.8	19.3
80°-90°	372.4	3.3
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°	11386.0	100.0
0°-180°	11386.0	100.0

**Coefficient of Utilization**



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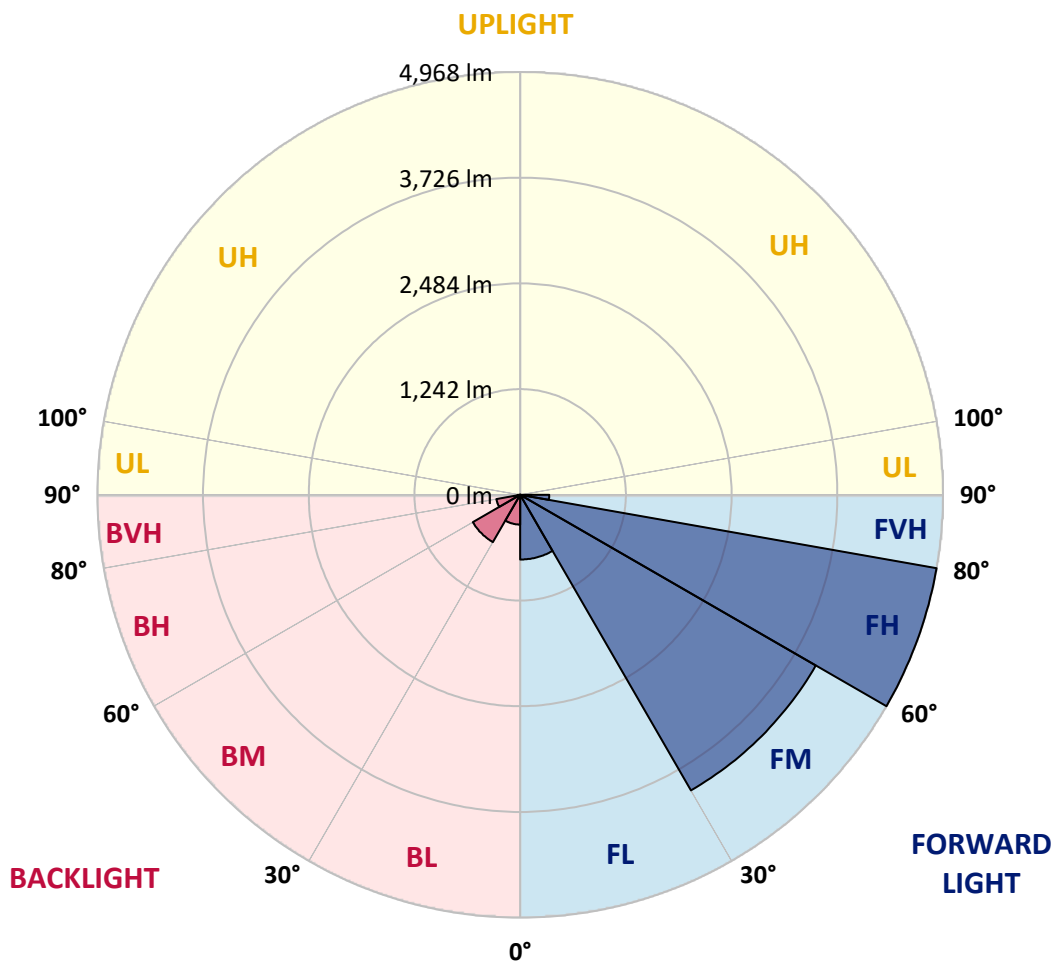
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	760.6	6.7			
FM	(30°-60°)	4010.4	35.2			
FH	(60°-80°)	4967.9	43.6			G2/5000
FVH	(80°-90°)	341.6	3.0			G3/500
BL	(0°-30°)	349.5	3.1	B1/500		
BM	(30°-60°)	641.6	5.6	B1/1000		
BH	(60°-80°)	283.7	2.5	B1/500		G1/500
BVH	(80°-90°)	30.8	0.3			G1/100
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B1-U0-G3**

Type IV Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	39°	45°	55°	65°	75°	85°
0°	1738.8	1738.8	1738.8	1738.8	1738.8	1738.8	1738.8	1738.8	1738.8	1738.8	1738.8
2.5°	1776.3	1777.1	1774.8	1767.9	1761.8	1758.7	1753.4	1744.2	1732.0	1723.6	1716.7
5°	1759.5	1761.8	1760.2	1748.8	1738.1	1732.0	1723.6	1710.6	1694.5	1687.6	1671.6
7.5°	1746.5	1748.0	1743.4	1730.4	1709.8	1702.2	1686.9	1670.1	1655.5	1645.6	1626.5
10°	1737.3	1738.8	1735.0	1722.0	1699.1	1689.9	1671.6	1653.2	1634.1	1621.9	1600.5
12.5°	1724.3	1727.4	1727.4	1721.3	1706.0	1699.9	1681.5	1661.6	1644.1	1631.1	1604.3
15°	1722.0	1725.9	1732.7	1732.0	1727.4	1722.8	1708.3	1688.4	1673.1	1657.8	1625.0
17.5°	1741.1	1749.5	1763.3	1767.9	1764.8	1754.9	1738.1	1719.7	1702.9	1688.4	1647.9
20°	1789.3	1793.9	1814.5	1823.7	1808.4	1793.9	1771.7	1748.0	1732.7	1721.3	1669.3
22.5°	1861.9	1868.0	1884.8	1885.6	1853.5	1835.9	1807.6	1778.6	1764.1	1759.5	1698.3
25°	1978.1	1976.6	1981.1	1962.0	1903.9	1883.3	1848.9	1815.3	1805.3	1814.5	1741.1
27.5°	2117.2	2113.4	2098.8	2049.2	1961.3	1934.5	1893.2	1863.4	1863.4	1884.8	1799.2
30°	2277.7	2273.9	2226.5	2143.2	2029.3	1998.7	1955.2	1923.8	1939.9	1981.1	1878.0
32.5°	2447.4	2433.6	2367.1	2255.5	2126.4	2092.7	2050.7	2018.6	2049.2	2119.5	1991.1
35°	2607.1	2599.5	2517.7	2385.5	2251.7	2223.4	2194.4	2154.6	2203.6	2312.9	2150.8
37.5°	2772.2	2766.1	2666.0	2525.3	2404.6	2385.5	2361.0	2333.5	2412.2	2555.9	2367.1
40°	2956.4	2944.2	2818.1	2677.4	2582.7	2573.5	2560.5	2552.9	2679.7	2893.7	2640.8
42.5°	3165.1	3141.4	2978.6	2844.8	2776.8	2784.4	2777.6	2808.1	3002.3	3283.6	2966.4
45°	3403.6	3356.2	3138.3	3022.9	2991.6	3022.2	3036.7	3114.6	3383.7	3733.7	3330.2
47.5°	3626.7	3565.6	3313.4	3216.3	3233.9	3286.6	3327.9	3465.5	3801.8	4178.6	3701.6
50°	3832.3	3763.6	3500.6	3416.5	3502.2	3577.1	3662.7	3856.8	4246.6	4636.4	4042.5
52.5°	3984.4	3934.8	3687.9	3635.1	3810.2	3909.5	4046.4	4291.7	4696.0	5072.8	4346.7
55°	4102.1	4075.4	3870.6	3885.8	4158.7	4300.9	4466.7	4748.8	5171.4	5464.2	4591.3
57.5°	4238.2	4218.3	4079.2	4188.5	4591.3	4770.2	4965.8	5279.2	5623.9	5808.9	4783.2
60°	4381.9	4381.9	4311.6	4553.1	5132.5	5337.3	5532.2	5776.0	6074.9	6119.2	4861.1
62.5°	4490.4	4518.7	4543.9	4941.4	5646.1	5900.6	6114.6	6348.5	6541.9	6272.1	4677.7
65°	4647.9	4708.3	4850.4	5390.0	6282.0	6615.3	6904.2	7100.6	6920.2	6150.5	4079.2
67.5°	4918.5	5007.9	5310.6	6058.1	7255.8	7754.9	8035.4	7696.0	6846.1	5385.5	3124.6
70°	5162.3	5288.4	5805.8	6905.7	8521.5	9039.7	8910.5	7557.7	5962.5	3947.8	1922.3
72°	5000.2	5137.8	5828.8	7274.9	9197.9	9442.5	8761.5	6697.8	4607.4	2409.2	947.8
72.5°	4894.0	5036.9	5754.6	7265.7	9216.3	9391.3	8554.4	6356.2	4182.4	2108.0	766.6
75°	4088.4	4210.7	4948.3	6439.5	8121.8	7800.7	6675.6	4113.6	1922.3	681.0	394.4
77.5°	2669.8	2763.0	3412.0	4461.4	5688.9	5380.1	4063.2	1926.1	720.8	413.5	296.6
80°	1341.4	1407.9	1826.0	2345.7	3070.3	2825.0	1875.7	931.7	482.3	298.9	233.1
82.5°	933.2	994.4	1257.3	1197.7	1283.3	1242.0	882.0	777.3	360.8	188.8	122.3
85°	782.7	846.1	1040.3	853.8	698.6	636.7	632.1	734.5	238.5	93.2	103.2
87.5°	682.5	778.9	858.3	623.7	479.2	422.7	465.5	673.4	75.7	51.2	31.3
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°	1738.8	1738.8	1738.8	1738.8	1738.8	1738.8	1738.8	1738.8	1738.8	1738.8	1738.8
2.5°	1705.2	1702.9	1691.5	1673.9	1660.9	1652.5	1636.4	1635.7	1637.2	1623.4	1628.8
5°	1657.1	1647.9	1618.1	1577.6	1544.7	1513.4	1479.0	1467.5	1457.6	1436.9	1439.2
7.5°	1606.6	1590.6	1538.6	1472.1	1408.7	1350.6	1293.2	1265.0	1243.6	1216.8	1216.8
10°	1576.8	1551.6	1472.1	1375.0	1274.1	1189.3	1103.7	1052.5	1015.0	980.6	978.3
12.5°	1575.3	1537.1	1426.2	1292.5	1154.1	1034.9	918.0	839.2	783.4	742.9	739.1
15°	1587.5	1534.0	1388.0	1215.3	1041.0	885.9	741.4	641.3	570.2	525.1	520.5
17.5°	1598.2	1530.2	1346.7	1134.3	931.0	742.2	581.7	477.7	410.4	373.8	369.9
20°	1608.1	1521.8	1294.0	1048.7	809.4	607.6	454.8	370.7	326.4	305.7	303.4
22.5°	1622.7	1514.1	1239.0	952.4	690.2	494.5	375.3	314.9	291.2	281.3	279.7
25°	1646.4	1514.9	1185.5	853.8	580.9	412.0	324.8	287.4	274.4	267.5	267.5
27.5°	1680.8	1524.1	1132.7	753.6	488.4	355.4	295.0	272.9	264.5	259.1	257.6
30°	1731.2	1540.9	1076.9	658.9	415.0	316.4	277.5	263.7	256.8	252.2	251.5
32.5°	1804.6	1570.7	1018.1	572.5	359.2	288.9	264.5	256.0	250.7	246.9	246.1
35°	1913.9	1623.4	960.8	499.1	319.5	269.0	253.8	246.9	243.8	242.3	241.5
37.5°	2074.4	1708.3	906.5	441.8	293.5	256.0	243.1	239.2	237.7	237.7	237.7
40°	2276.2	1819.9	857.6	401.3	279.0	246.1	235.4	232.4	232.4	233.1	233.1
42.5°	2521.5	1959.7	815.5	373.8	270.6	239.2	230.1	228.5	227.8	227.8	228.5
45°	2806.6	2124.8	789.6	352.4	264.5	235.4	226.2	225.5	222.4	220.9	220.9
47.5°	3093.2	2301.4	788.0	340.1	256.8	230.8	222.4	222.4	216.3	213.2	214.0
50°	3360.8	2459.6	804.8	337.1	252.2	223.9	218.6	219.4	211.0	207.1	206.4
52.5°	3576.3	2580.4	825.5	340.9	252.2	217.8	211.7	215.5	206.4	201.8	201.0
55°	3742.9	2664.4	833.1	349.3	255.3	212.5	205.6	211.7	204.8	198.7	198.7
57.5°	3862.2	2691.2	800.3	353.1	259.9	211.7	199.5	211.0	207.1	199.5	199.5
60°	3818.6	2536.0	678.0	338.6	259.1	210.2	194.9	212.5	214.8	206.4	206.4
62.5°	3478.5	2121.8	544.2	305.7	246.1	204.8	189.6	211.0	220.1	217.1	215.5
65°	2831.8	1556.2	421.9	266.8	223.9	193.4	178.1	197.2	207.9	211.0	211.7
67.5°	1995.7	985.2	327.9	227.0	196.4	176.6	165.1	174.3	178.1	179.6	182.7
70°	1091.5	533.5	260.6	191.1	168.2	159.7	151.3	152.1	150.6	149.0	150.6
72°	548.0	348.5	220.1	165.9	149.0	143.7	139.9	137.6	137.6	135.3	136.1
72.5°	471.6	324.1	212.5	159.7	144.5	139.9	136.8	134.5	133.8	132.2	133.0
75°	314.1	256.8	177.3	133.8	123.1	120.0	121.5	119.2	120.0	118.5	119.2
77.5°	253.8	220.9	150.6	113.1	105.5	100.9	103.9	104.7	106.2	104.7	103.9
80°	212.5	188.0	126.1	93.2	87.9	84.1	85.6	91.0	91.7	87.1	86.4
82.5°	137.6	151.3	99.4	72.6	67.3	65.7	69.6	74.9	76.4	70.3	68.8
85°	115.4	121.5	71.8	49.7	44.3	42.8	50.4	55.8	59.6	53.5	52.0
87.5°	32.1	59.6	35.2	23.7	19.9	19.9	24.5	29.0	34.4	35.2	35.2
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)