

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: P196646

Luminaire Tested: **NAV-AF-02-D-UNV-SL4-7030-HSS**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P196646  
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-02-D-UNV-SL4-7030-HSS  
Description: NAVION ROADWAY AND AREA LUMINAIRE  
(2) 70 CRI, 3000K, 1050mA 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: 9597.3 lumens  
Efficiency: N/A  
Efficacy: 84.9 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')  
IES Classification: Type IV - Short - Non-Cutoff  
BUG Rating: B1 - U0 - G2

Input Watts (W): 113  
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

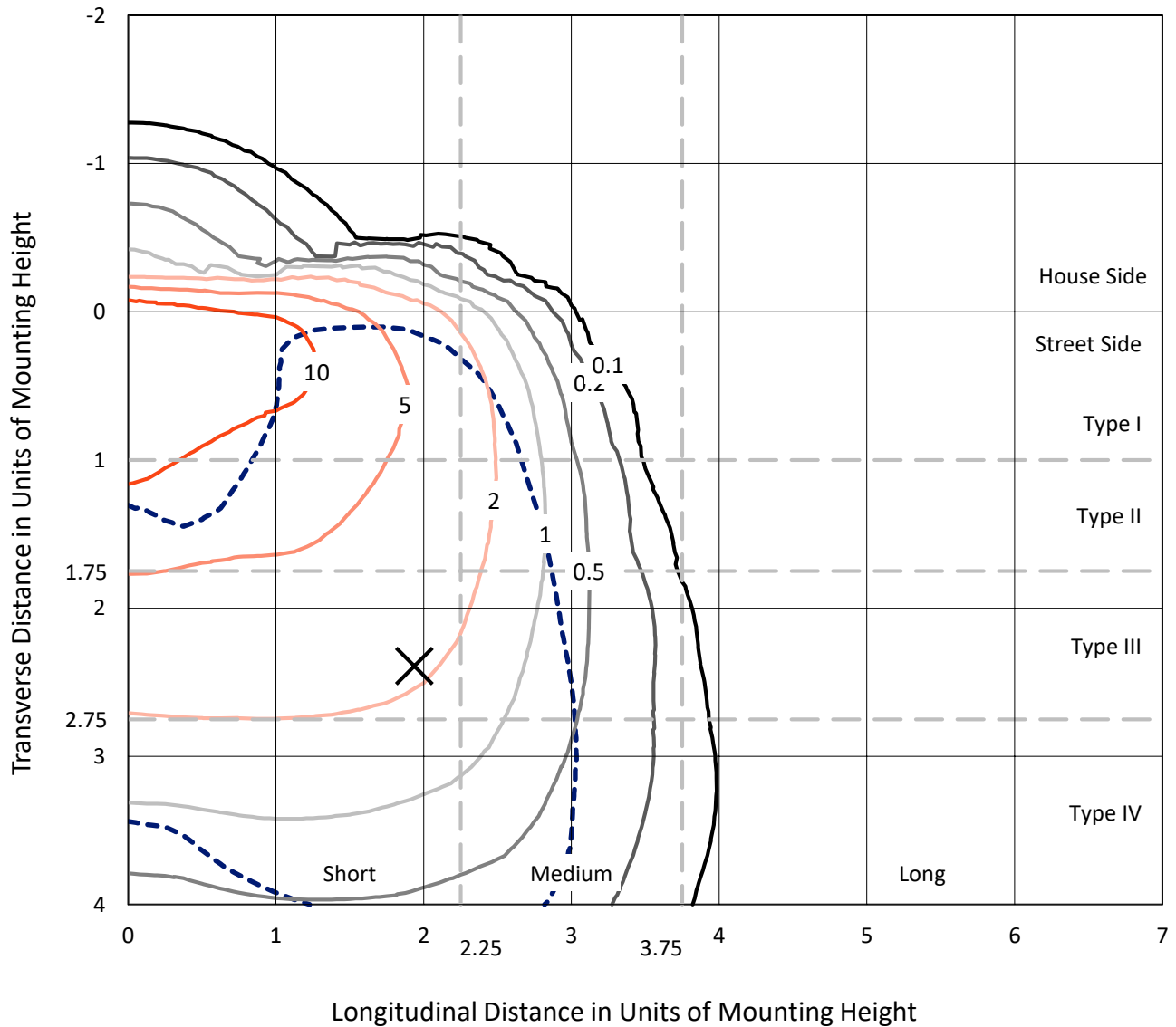


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### Iso-Footcandle Lines of Horizontal Illumination

✕ Max cd  
 - - - 1/2 Max cd

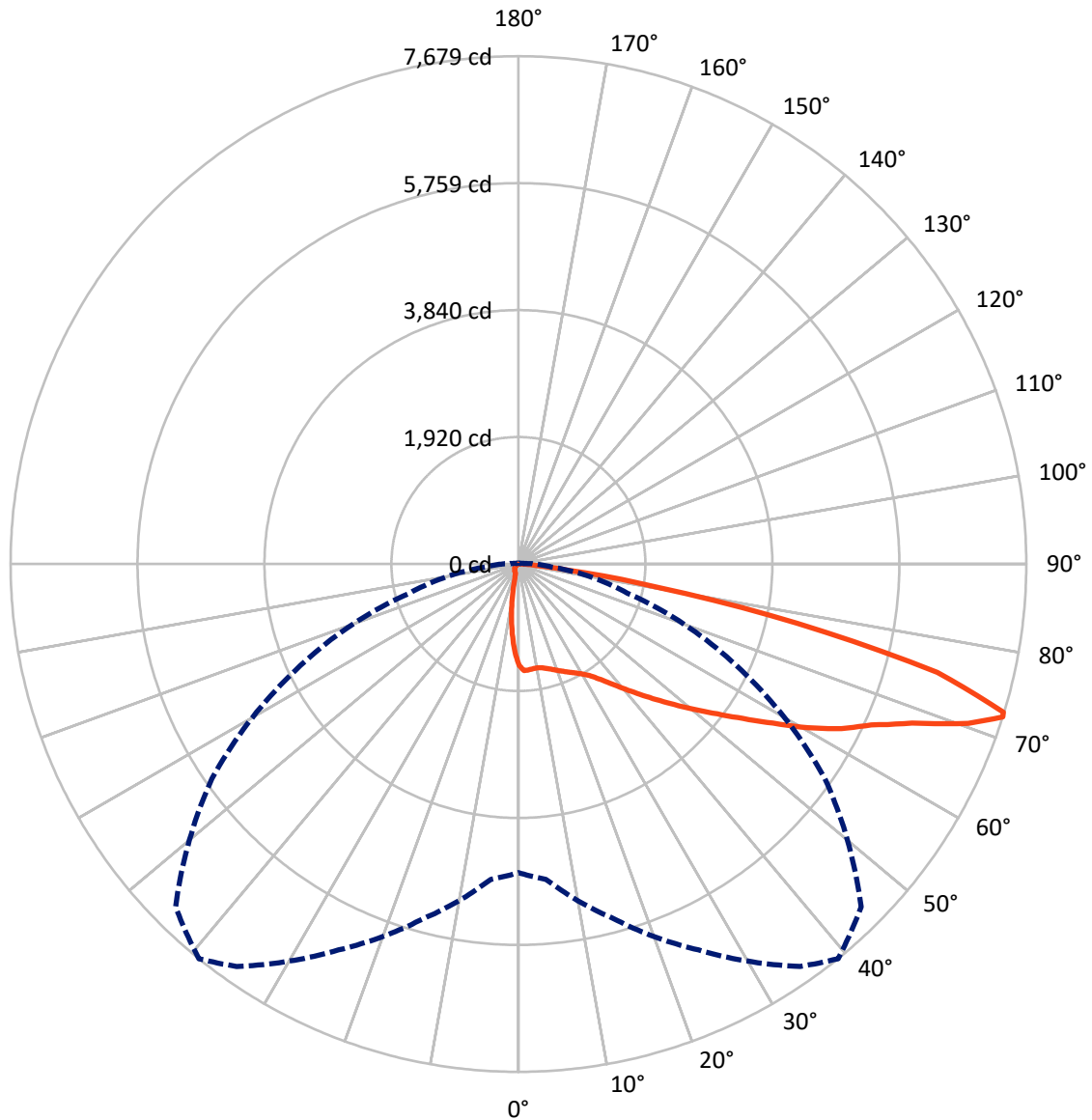


Based on 10 foot mounting height. Maximum calculated value = 16.1 fc  
 Type IV - Short - Non-Cutoff

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### Luminous Intensity Polar Plot



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

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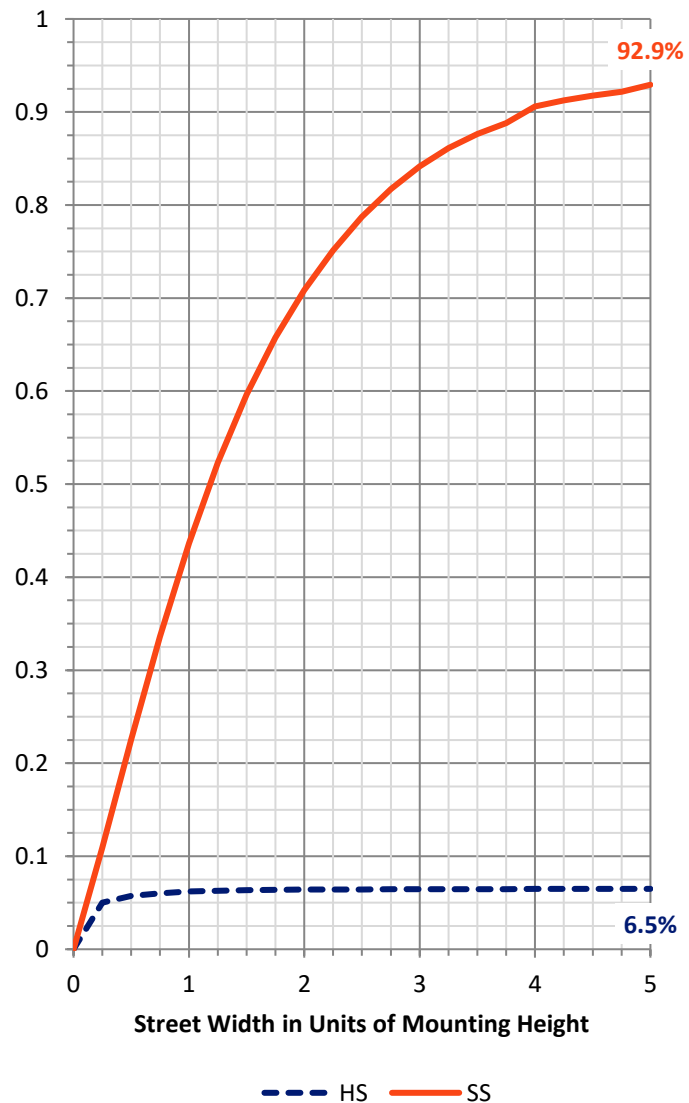
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	629.0	0.0	629.0
	% Fixture	6.6	0.0	6.6
<b>Street Side</b>	Lumens	8968.3	0.0	8968.3
	% Fixture	93.4	0.0	93.4
<b>Total</b>	Lumens	9597.3	0.0	9597.3
	% Fixture	100.0	0.0	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	124.9	1.3
10°-20°	302.5	3.2
20°-30°	502.4	5.2
30°-40°	800.7	8.3
40°-50°	1321.6	13.8
50°-60°	1995.9	20.8
60°-70°	2600.0	27.1
70°-80°	1756.8	18.3
80°-90°	192.4	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°	9597.3	100.0
0°-180°	9597.3	100.0



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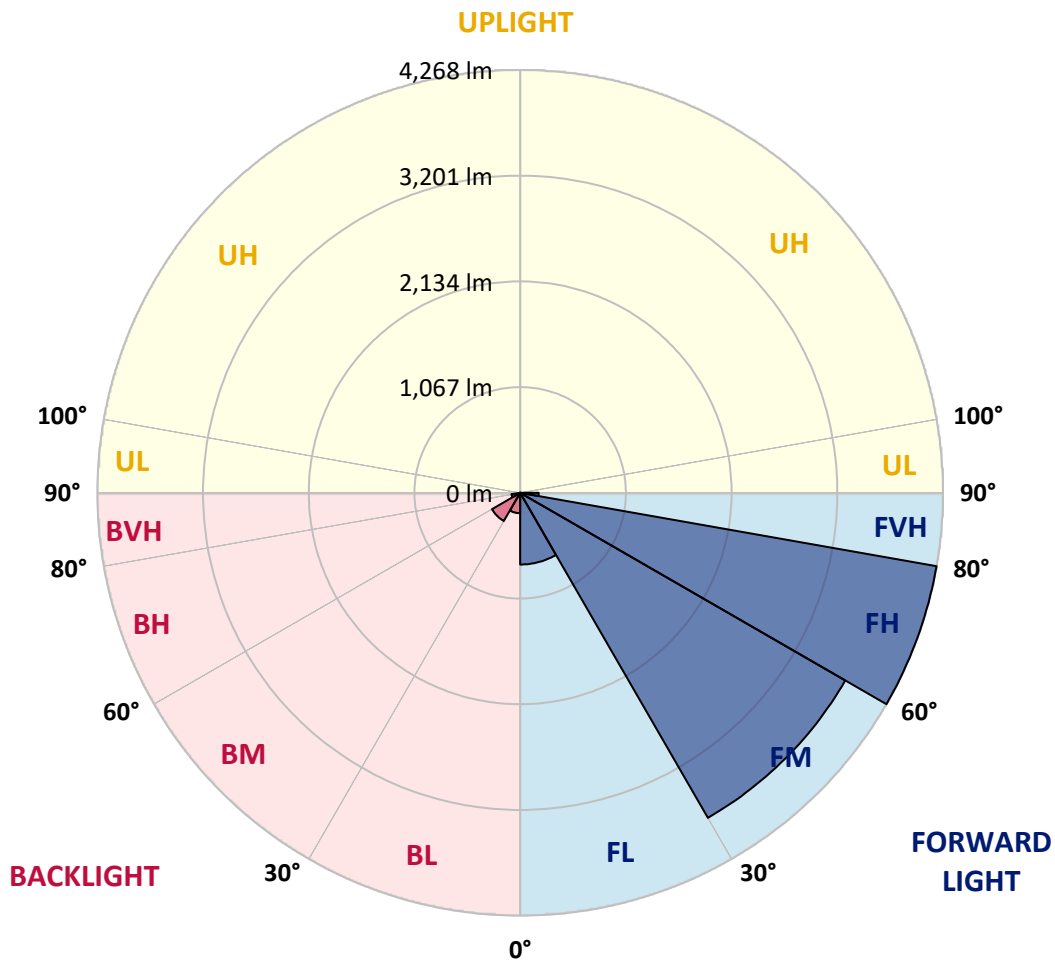
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	723.9	7.5			
FM	(30°-60°)	3789.2	39.5			
FH	(60°-80°)	4268.5	44.5			G2/5000
FVH	(80°-90°)	186.9	1.9			G2/225
BL	(0°-30°)	206.0	2.1	B1/500		
BM	(30°-60°)	329.1	3.4	B1/1000		
BH	(60°-80°)	88.4	0.9	B0/110		G0/110
BVH	(80°-90°)	5.5	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°	1536.0	1536.0	1536.0	1536.0	1536.0	1536.0	1536.0	1536.0	1536.0	1536.0	1536.0
2.5°	1635.7	1638.7	1634.9	1628.2	1618.3	1612.3	1604.0	1585.9	1563.3	1543.7	1521.0
5°	1648.5	1650.1	1645.6	1632.7	1617.6	1609.3	1598.8	1579.2	1555.8	1528.5	1487.8
7.5°	1652.3	1651.6	1646.3	1630.4	1606.9	1596.5	1578.4	1554.2	1530.0	1505.1	1459.1
10°	1650.8	1650.8	1647.0	1631.9	1605.6	1595.7	1575.3	1549.8	1519.5	1494.6	1445.6
12.5°	1645.6	1648.5	1646.3	1638.1	1618.3	1610.8	1592.7	1567.0	1538.4	1512.7	1460.7
15°	1652.3	1656.8	1661.4	1658.3	1647.0	1640.2	1623.6	1597.3	1573.9	1546.7	1490.9
17.5°	1679.5	1689.2	1699.8	1700.6	1688.5	1676.5	1657.6	1630.4	1607.7	1582.8	1522.5
20°	1730.7	1738.4	1758.0	1761.7	1737.5	1720.2	1693.8	1662.2	1639.4	1618.3	1551.9
22.5°	1806.9	1815.3	1831.0	1825.8	1785.1	1764.7	1731.5	1695.2	1671.8	1659.8	1585.9
25°	1922.4	1924.7	1928.4	1905.1	1838.0	1815.3	1774.5	1733.8	1715.0	1713.4	1634.2
27.5°	2058.2	2061.2	2044.7	1992.6	1896.7	1867.4	1821.4	1784.3	1775.3	1786.6	1695.2
30°	2213.6	2214.3	2168.4	2083.9	1964.7	1932.2	1884.7	1844.0	1852.3	1880.2	1773.9
32.5°	2372.8	2365.3	2301.9	2191.7	2057.5	2018.2	1977.5	1936.7	1960.8	2017.5	1888.4
35°	2518.4	2515.4	2440.8	2312.5	2178.2	2143.4	2114.0	2071.0	2110.3	2202.3	2044.7
37.5°	2664.1	2661.8	2576.6	2443.0	2326.7	2301.9	2280.0	2246.8	2311.0	2446.0	2253.6
40°	2824.8	2821.0	2716.0	2587.8	2499.7	2485.9	2473.2	2458.9	2568.2	2756.1	2513.9
42.5°	3023.2	3006.6	2864.0	2745.5	2689.8	2693.5	2694.3	2708.5	2879.8	3125.1	2821.0
45°	3251.0	3214.1	3012.6	2914.5	2898.6	2921.4	2944.0	3003.5	3242.7	3549.9	3160.6
47.5°	3472.2	3412.5	3184.0	3096.4	3128.8	3175.6	3229.9	3346.1	3650.2	3994.2	3468.3
50°	3662.3	3601.0	3353.6	3281.3	3384.7	3454.0	3550.6	3726.4	4080.2	4370.0	3662.3
52.5°	3811.6	3763.3	3533.2	3485.0	3668.3	3763.3	3915.0	4145.9	4486.0	4617.4	3798.1
55°	3921.8	3897.6	3705.2	3712.0	3983.6	4120.9	4309.6	4570.7	4828.6	4809.8	3899.9
57.5°	4046.3	4027.4	3885.6	3979.9	4363.2	4540.5	4758.5	4968.2	5077.6	4964.4	3999.4
60°	4173.8	4179.8	4104.4	4304.3	4832.4	5028.5	5218.8	5270.7	5291.1	5121.4	4104.4
62.5°	4270.3	4296.0	4302.7	4654.3	5313.9	5481.3	5563.5	5526.6	5522.0	5331.9	4096.0
65°	4381.3	4448.4	4560.1	5038.4	5751.4	5861.5	5920.4	5974.0	5860.7	5394.4	3693.2
67.5°	4572.9	4678.5	4929.8	5509.2	6256.8	6419.8	6586.5	6530.0	5911.4	4758.5	2813.4
70°	4830.9	4960.0	5403.5	6124.1	6942.7	7215.8	7355.5	6485.5	5018.9	3288.0	1484.1
72°	4668.0	4784.9	5550.0	6438.0	7428.5	7679.1	7329.7	5657.1	3638.2	1704.3	497.2
72.5°	4509.4	4630.2	5503.2	6434.2	7476.8	7668.5	7163.0	5330.4	3219.4	1326.4	342.5
75°	3128.8	3281.3	4717.7	5783.8	6751.7	6541.4	5480.6	3227.6	1166.5	227.8	113.2
77.5°	1617.6	1735.2	2861.7	4087.0	4705.7	4309.6	3239.0	1400.2	323.0	120.7	74.8
80°	1002.7	1060.8	1338.4	2013.6	2444.4	2138.2	1429.0	565.9	206.7	71.7	59.6
82.5°	519.1	563.6	842.7	812.6	903.1	750.7	527.4	473.8	127.5	44.5	61.0
85°	170.6	181.1	517.6	540.2	386.3	259.5	234.0	451.9	36.9	28.6	52.0
87.5°	22.6	26.4	181.8	309.3	190.1	117.7	140.3	159.2	12.8	15.9	14.3
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°	1536.0	1536.0	1536.0	1536.0	1536.0	1536.0	1536.0	1536.0	1536.0	1536.0	1536.0
2.5°	1505.9	1496.1	1465.1	1434.2	1398.8	1366.4	1340.7	1324.1	1331.7	1306.7	1310.6
5°	1463.0	1438.1	1370.1	1296.9	1217.7	1143.8	1085.0	1041.1	1032.8	995.2	996.7
7.5°	1421.5	1380.7	1270.5	1149.9	1018.6	912.2	815.6	731.1	700.9	670.0	651.8
10°	1398.8	1343.1	1186.8	1010.9	826.1	670.0	534.2	427.7	383.3	350.8	335.0
12.5°	1405.6	1331.7	1124.2	885.0	642.0	443.6	301.8	224.1	196.8	181.8	176.6
15°	1428.2	1333.9	1067.6	762.0	467.0	268.6	177.3	151.7	149.3	148.6	147.8
17.5°	1449.4	1336.1	1008.0	633.8	312.4	171.3	142.6	140.3	140.3	140.3	140.3
20°	1471.1	1336.9	942.4	499.5	205.2	140.3	134.3	132.8	134.3	134.3	134.3
22.5°	1496.9	1342.2	879.0	369.0	151.7	131.9	128.3	127.5	128.3	128.3	127.5
25°	1528.5	1353.5	810.2	264.1	137.3	126.7	123.0	122.3	123.0	122.3	122.3
27.5°	1570.8	1368.6	730.3	189.3	131.3	121.5	117.7	117.7	117.7	116.9	116.9
30°	1625.1	1386.7	623.3	149.3	125.2	116.2	113.2	113.2	112.4	111.7	111.7
32.5°	1702.8	1416.1	506.3	135.1	118.4	109.4	106.4	107.2	106.4	105.7	104.9
35°	1813.0	1462.2	390.8	127.5	111.7	102.6	99.7	99.7	99.7	98.2	98.2
37.5°	1969.2	1532.4	292.7	119.9	104.9	95.8	92.0	92.0	91.3	89.8	90.5
40°	2162.3	1620.7	212.0	113.2	98.2	88.3	85.2	83.7	82.3	80.8	80.8
42.5°	2394.8	1706.6	159.2	106.4	91.3	82.3	78.4	76.9	74.0	72.4	71.7
45°	2655.0	1798.0	131.9	98.2	83.7	75.5	72.4	69.4	65.7	63.4	62.6
47.5°	2874.6	1853.8	117.7	89.8	76.2	68.7	65.7	61.0	56.6	55.0	55.0
50°	3006.6	1830.3	105.7	81.5	68.7	61.8	58.1	52.0	49.0	47.5	46.8
52.5°	3080.6	1760.9	95.8	74.8	61.8	54.3	49.0	43.8	42.3	40.8	40.8
55°	3131.1	1660.6	85.2	67.8	55.8	47.5	41.5	37.7	36.2	35.5	34.8
57.5°	3179.3	1538.4	75.5	61.8	49.8	42.3	35.5	34.0	30.9	30.1	30.1
60°	3193.6	1370.1	66.4	55.0	44.5	36.9	30.9	28.6	25.6	24.9	24.9
62.5°	3011.0	1090.2	58.9	46.8	39.3	31.6	27.2	24.1	21.1	21.1	21.1
65°	2516.1	740.1	50.6	40.8	34.8	27.2	23.4	19.6	18.1	18.1	18.1
67.5°	1752.6	412.7	43.0	34.8	29.4	22.6	19.6	16.6	15.9	16.6	16.6
70°	790.0	163.7	36.2	28.6	24.1	18.9	16.6	14.3	15.9	15.9	15.9
72°	236.9	87.5	30.1	23.4	19.6	16.6	14.3	13.5	15.1	15.9	15.9
72.5°	175.8	78.4	28.6	22.6	19.6	15.9	13.5	13.5	15.1	15.9	15.9
75°	90.5	53.5	21.9	16.6	14.3	12.8	11.4	12.8	15.1	15.1	15.1
77.5°	70.9	43.8	18.1	12.8	12.0	11.4	10.6	12.0	13.5	13.5	13.5
80°	66.4	28.6	14.3	12.0	10.6	9.9	9.9	10.6	12.0	12.8	12.8
82.5°	67.2	23.4	12.8	11.4	9.9	9.1	9.1	9.9	11.4	12.0	12.0
85°	43.0	15.9	11.4	9.9	9.1	8.3	8.3	9.1	10.6	11.4	11.4
87.5°	14.3	12.0	9.9	9.1	7.5	7.5	7.5	7.5	9.1	9.9	10.6
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)