

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: P197132

Luminaire Tested: **NAV-AF-02-D-UNV-SL4-8030-1200-HSS**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P197132  
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-SL4-8030-1200-HSS  
Description: NAVION ROADWAY AND AREA LUMINAIRE  
(2) 80 CRI, 3000K, 1200mA 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: 8882 lumens  
Efficiency: N/A  
Efficacy: 68.9 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): 129  
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

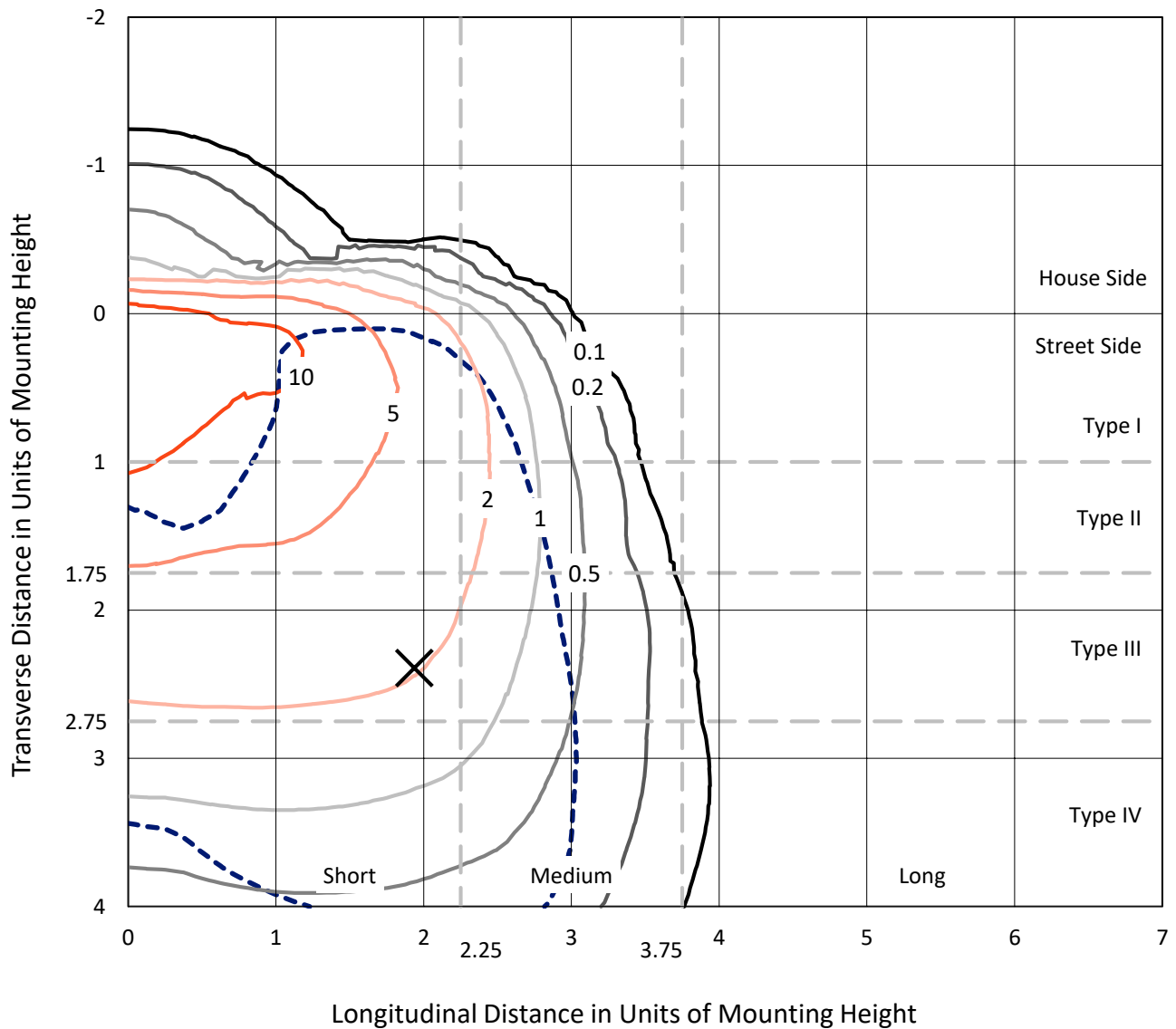


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### Iso-Footcandle Lines of Horizontal Illumination

× Max cd  
 - - - 1/2 Max cd

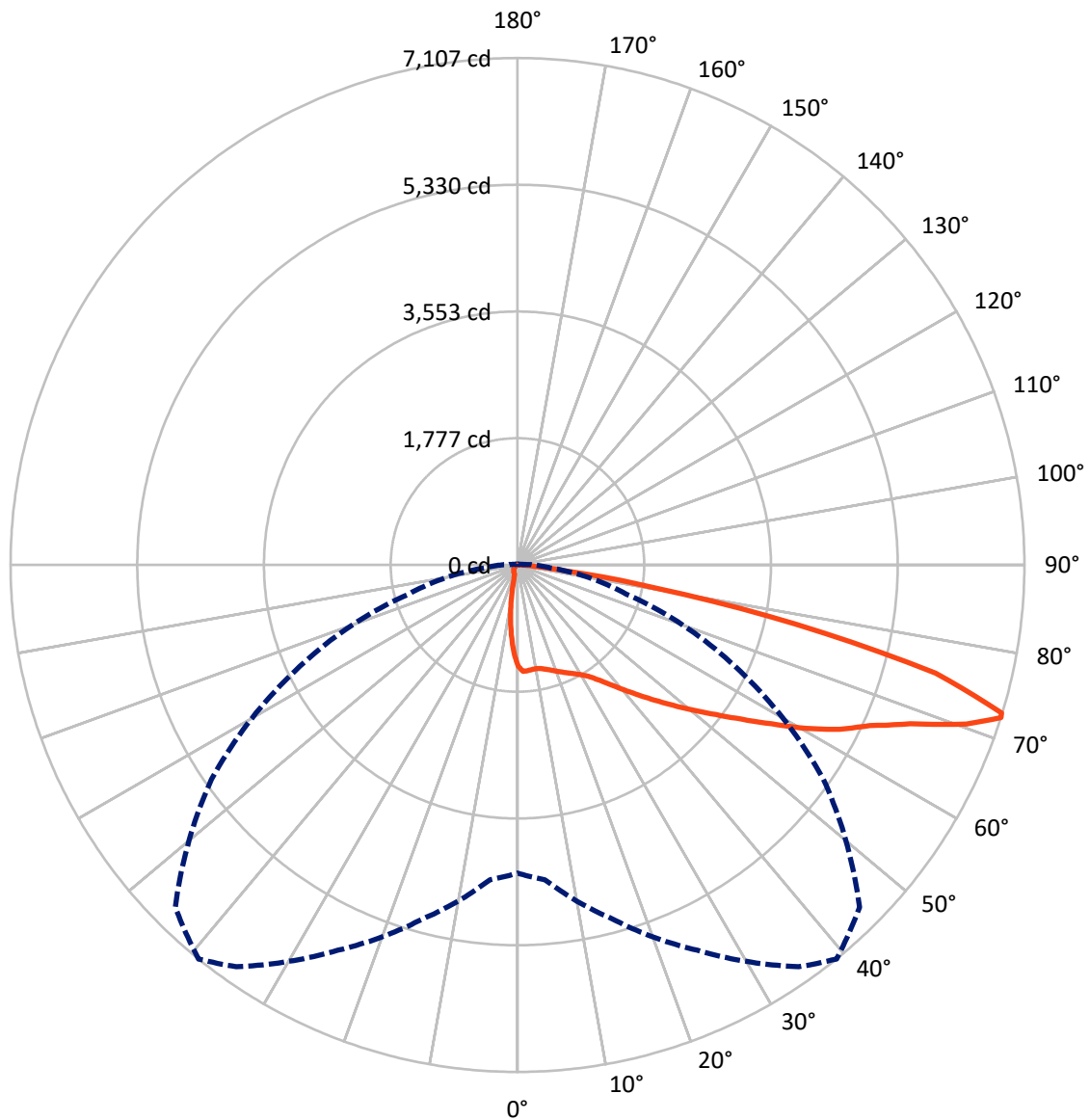


Based on 10 foot mounting height. Maximum calculated value = 14.9 fc  
 Type IV - Short - Non-Cutoff

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### Luminous Intensity Polar Plot



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

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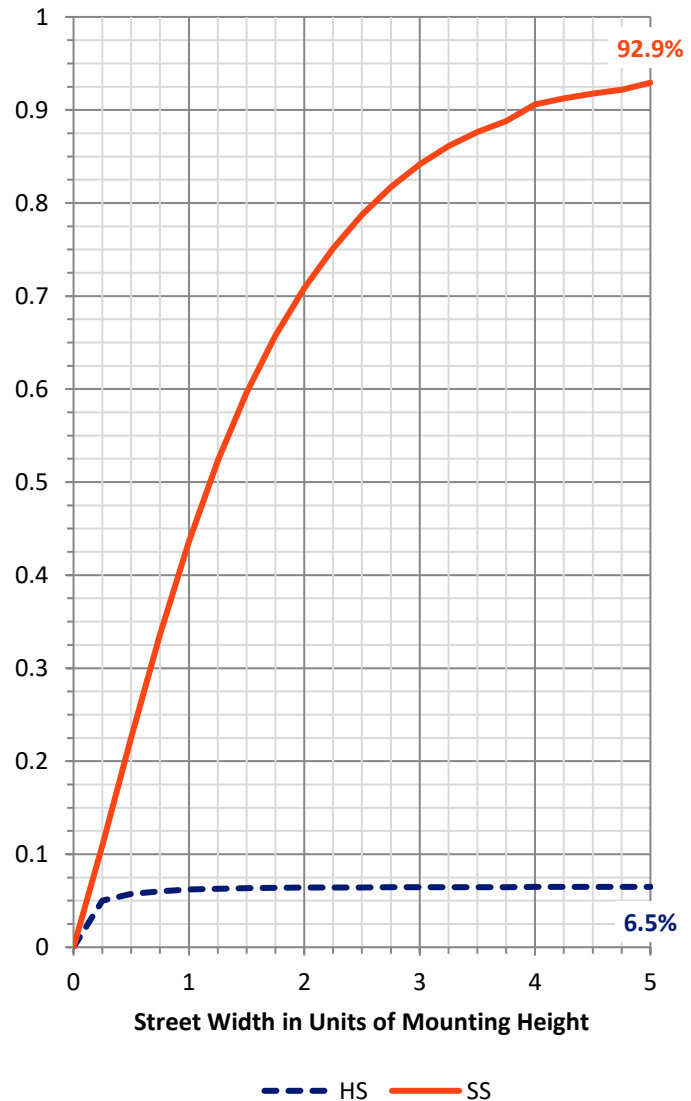
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	582.1	0.0	582.1
	% Fixture	6.6	0.0	6.6
<b>Street Side</b>	Lumens	8299.9	0.0	8299.9
	% Fixture	93.4	0.0	93.4
<b>Total</b>	Lumens	8882.0	0.0	8882.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	115.6	1.3
10°-20°	280.0	3.2
20°-30°	464.9	5.2
30°-40°	741.0	8.3
40°-50°	1223.1	13.8
50°-60°	1847.2	20.8
60°-70°	2406.2	27.1
70°-80°	1625.9	18.3
80°-90°	178.1	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°	8882.0	100.0
0°-180°	8882.0	100.0

**Coefficient of Utilization**



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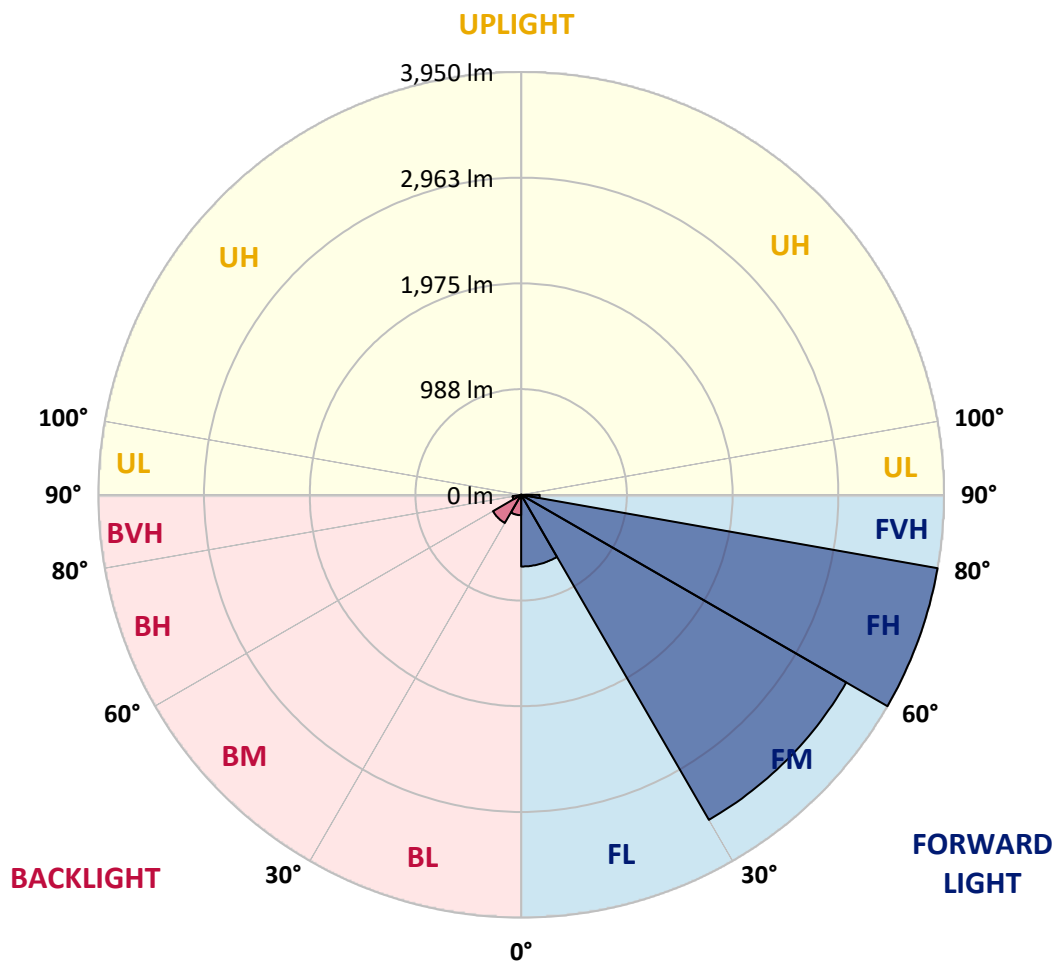
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	669.9	7.5			
FM (30°-60°)	3506.7	39.5			
FH (60°-80°)	3950.3	44.5			G2/5000
FVH (80°-90°)	172.9	1.9			G2/225
BL (0°-30°)	190.6	2.1	B1/500		
BM (30°-60°)	304.6	3.4	B1/1000		
BH (60°-80°)	81.8	0.9	B0/110		G0/110
BVH (80°-90°)	5.1	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°	1421.6	1421.6	1421.6	1421.6	1421.6	1421.6	1421.6	1421.6	1421.6	1421.6	1421.6
2.5°	1513.8	1516.6	1513.1	1506.8	1497.7	1492.1	1484.5	1467.7	1446.8	1428.6	1407.7
5°	1525.7	1527.1	1522.9	1511.0	1497.0	1489.4	1479.6	1461.4	1439.8	1414.6	1376.9
7.5°	1529.2	1528.5	1523.6	1508.9	1487.3	1477.5	1460.7	1438.4	1416.0	1393.0	1350.4
10°	1527.8	1527.8	1524.3	1510.3	1485.9	1476.8	1457.9	1434.2	1406.3	1383.2	1337.8
12.5°	1522.9	1525.7	1523.6	1515.9	1497.7	1490.7	1474.0	1450.2	1423.7	1400.0	1351.8
15°	1529.2	1533.3	1537.5	1534.7	1524.3	1518.0	1502.6	1478.2	1456.5	1431.4	1379.7
17.5°	1554.3	1563.4	1573.1	1573.8	1562.7	1551.5	1534.0	1508.9	1488.0	1464.9	1409.1
20°	1601.8	1608.8	1626.9	1630.4	1608.1	1592.0	1567.6	1538.2	1517.3	1497.7	1436.3
22.5°	1672.3	1680.0	1694.6	1689.7	1652.0	1633.2	1602.5	1569.0	1547.3	1536.1	1467.7
25°	1779.1	1781.2	1784.7	1763.1	1700.9	1680.0	1642.3	1604.6	1587.1	1585.7	1512.4
27.5°	1904.8	1907.6	1892.2	1844.1	1755.4	1728.1	1685.6	1651.3	1643.0	1653.4	1569.0
30°	2048.6	2049.3	2006.7	1928.5	1818.2	1788.2	1744.2	1706.5	1714.2	1740.0	1641.6
32.5°	2196.0	2189.0	2130.3	2028.4	1904.1	1867.8	1830.1	1792.4	1814.7	1867.1	1747.7
35°	2330.7	2327.9	2258.8	2140.1	2015.8	1983.7	1956.5	1916.7	1953.0	2038.2	1892.2
37.5°	2465.5	2463.4	2384.5	2260.9	2153.4	2130.3	2110.1	2079.4	2138.7	2263.7	2085.7
40°	2614.2	2610.7	2513.7	2395.0	2313.3	2300.7	2288.8	2275.6	2376.8	2550.7	2326.5
42.5°	2797.9	2782.5	2650.5	2540.9	2489.2	2492.7	2493.4	2506.7	2665.2	2892.1	2610.7
45°	3008.7	2974.5	2788.1	2697.3	2682.6	2703.6	2724.5	2779.7	3001.0	3285.2	2924.9
47.5°	3213.3	3158.2	2946.6	2865.6	2895.6	2938.9	2989.2	3096.7	3378.1	3696.5	3209.8
50°	3389.3	3332.7	3103.7	3036.7	3132.3	3196.6	3285.9	3448.6	3776.1	4044.2	3389.3
52.5°	3527.5	3482.8	3269.9	3225.2	3394.9	3482.8	3623.2	3836.8	4151.7	4273.2	3515.0
55°	3629.5	3607.1	3429.1	3435.4	3686.7	3813.8	3988.4	4230.0	4468.8	4451.3	3609.2
57.5°	3744.7	3727.2	3595.9	3683.2	4037.9	4202.0	4403.8	4597.9	4699.2	4594.4	3701.4
60°	3862.7	3868.3	3798.4	3983.5	4472.2	4653.8	4829.7	4877.9	4896.8	4739.7	3798.4
62.5°	3952.1	3975.8	3982.1	4307.5	4917.7	5072.7	5148.8	5114.6	5110.4	4934.5	3790.8
65°	4054.7	4116.8	4220.2	4662.9	5322.7	5424.6	5479.1	5528.7	5423.9	4992.4	3417.9
67.5°	4232.0	4329.8	4562.3	5098.6	5790.5	5941.3	6095.7	6043.3	5470.7	4403.8	2603.7
70°	4470.8	4590.2	5000.8	5667.6	6425.2	6678.0	6807.2	6002.1	4644.7	3042.9	1373.4
72°	4320.0	4428.3	5136.3	5958.1	6874.9	7106.7	6783.4	5235.4	3366.9	1577.3	460.1
72.5°	4173.4	4285.1	5093.0	5954.6	6919.6	7096.9	6629.1	4933.1	2979.4	1227.5	317.0
75°	2895.6	3036.7	4366.1	5352.7	6248.6	6053.8	5072.0	2987.1	1079.5	210.9	104.7
77.5°	1497.0	1606.0	2648.4	3782.4	4354.9	3988.4	2997.6	1295.9	298.8	111.7	69.1
80°	928.0	981.7	1238.7	1863.6	2262.3	1978.8	1322.5	523.7	191.3	66.3	55.2
82.5°	480.4	521.6	779.9	752.0	835.8	694.8	488.1	438.5	118.0	41.2	56.6
85°	157.8	167.6	479.0	499.9	357.5	240.2	216.5	418.2	34.2	26.5	48.2
87.5°	20.9	24.4	168.3	286.3	176.0	108.9	129.9	147.3	11.9	14.7	13.3
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°	1421.6	1421.6	1421.6	1421.6	1421.6	1421.6	1421.6	1421.6	1421.6	1421.6	1421.6
2.5°	1393.7	1384.6	1356.0	1327.4	1294.5	1264.5	1240.8	1225.4	1232.4	1209.4	1212.8
5°	1353.9	1330.9	1268.0	1200.3	1127.0	1058.5	1004.1	963.6	955.9	921.0	922.4
7.5°	1315.5	1277.8	1175.8	1064.1	942.6	844.2	754.8	676.6	648.7	620.0	603.3
10°	1294.5	1242.9	1098.3	935.6	764.6	620.0	494.4	395.9	354.7	324.7	310.0
12.5°	1300.8	1232.4	1040.4	819.0	594.2	410.6	279.3	207.4	182.2	168.3	163.4
15°	1321.8	1234.5	988.0	705.2	432.2	248.6	164.1	140.3	138.3	137.6	136.9
17.5°	1341.3	1236.6	932.9	586.5	289.1	158.5	132.0	129.9	129.9	129.9	129.9
20°	1361.6	1237.3	872.1	462.2	189.9	129.9	124.3	122.9	124.3	124.3	124.3
22.5°	1385.3	1242.2	813.5	341.4	140.3	122.2	118.7	118.0	118.7	118.7	118.0
25°	1414.6	1252.6	749.9	244.4	127.1	117.3	113.8	113.1	113.8	113.1	113.1
27.5°	1453.7	1266.6	675.9	175.3	121.5	112.4	108.9	108.9	108.9	108.2	108.2
30°	1504.0	1283.4	576.7	138.3	115.9	107.5	104.7	104.7	104.0	103.3	103.3
32.5°	1575.9	1310.6	468.5	125.0	109.6	101.2	98.5	99.2	98.5	97.8	97.1
35°	1677.9	1353.2	361.7	118.0	103.3	95.0	92.2	92.2	92.2	90.8	90.8
37.5°	1822.4	1418.1	270.9	111.0	97.1	88.7	85.2	85.2	84.5	83.1	83.8
40°	2001.2	1499.8	196.2	104.7	90.8	81.7	78.9	77.5	76.1	74.7	74.7
42.5°	2216.2	1579.4	147.3	98.5	84.5	76.1	72.6	71.2	68.4	67.0	66.3
45°	2457.1	1663.9	122.2	90.8	77.5	69.8	67.0	64.2	60.7	58.7	58.0
47.5°	2660.3	1715.6	108.9	83.1	70.5	63.5	60.7	56.6	52.4	51.0	51.0
50°	2782.5	1693.9	97.8	75.4	63.5	57.3	53.8	48.2	45.4	44.0	43.3
52.5°	2850.9	1629.7	88.7	69.1	57.3	50.3	45.4	40.5	39.1	37.7	37.7
55°	2897.7	1536.8	78.9	62.8	51.7	44.0	38.4	34.9	33.5	32.8	32.1
57.5°	2942.4	1423.7	69.8	57.3	46.1	39.1	32.8	31.4	28.6	27.9	27.9
60°	2955.7	1268.0	61.4	51.0	41.2	34.2	28.6	26.5	23.7	23.0	23.0
62.5°	2786.7	1009.0	54.5	43.3	36.3	29.3	25.1	22.3	19.6	19.6	19.6
65°	2328.6	685.0	46.8	37.7	32.1	25.1	21.6	18.2	16.8	16.8	16.8
67.5°	1622.0	381.9	39.8	32.1	27.2	20.9	18.2	15.4	14.7	15.4	15.4
70°	731.1	151.5	33.5	26.5	22.3	17.5	15.4	13.3	14.7	14.7	14.7
72°	219.2	81.0	27.9	21.6	18.2	15.4	13.3	12.6	14.0	14.7	14.7
72.5°	162.7	72.6	26.5	20.9	18.2	14.7	12.6	12.6	14.0	14.7	14.7
75°	83.8	49.6	20.2	15.4	13.3	11.9	10.5	11.9	14.0	14.0	14.0
77.5°	65.6	40.5	16.8	11.9	11.2	10.5	9.8	11.2	12.6	12.6	12.6
80°	61.4	26.5	13.3	11.2	9.8	9.1	9.1	9.8	11.2	11.9	11.9
82.5°	62.1	21.6	11.9	10.5	9.1	8.4	8.4	9.1	10.5	11.2	11.2
85°	39.8	14.7	10.5	9.1	8.4	7.7	7.7	8.4	9.8	10.5	10.5
87.5°	13.3	11.2	9.1	8.4	7.0	7.0	7.0	7.0	8.4	9.1	9.8
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)