

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: P197121

Luminaire Tested: **NAV-AF-03-D-UNV-SL4-8030-800-HSS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P197121
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-SL4-8030-800-HSS
Description: NAVION ROADWAY AND AREA LUMINAIRE
(3) 80 CRI, 3000K, 800mA 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: 9728 lumens
Efficiency: N/A
Efficacy: 78.5 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

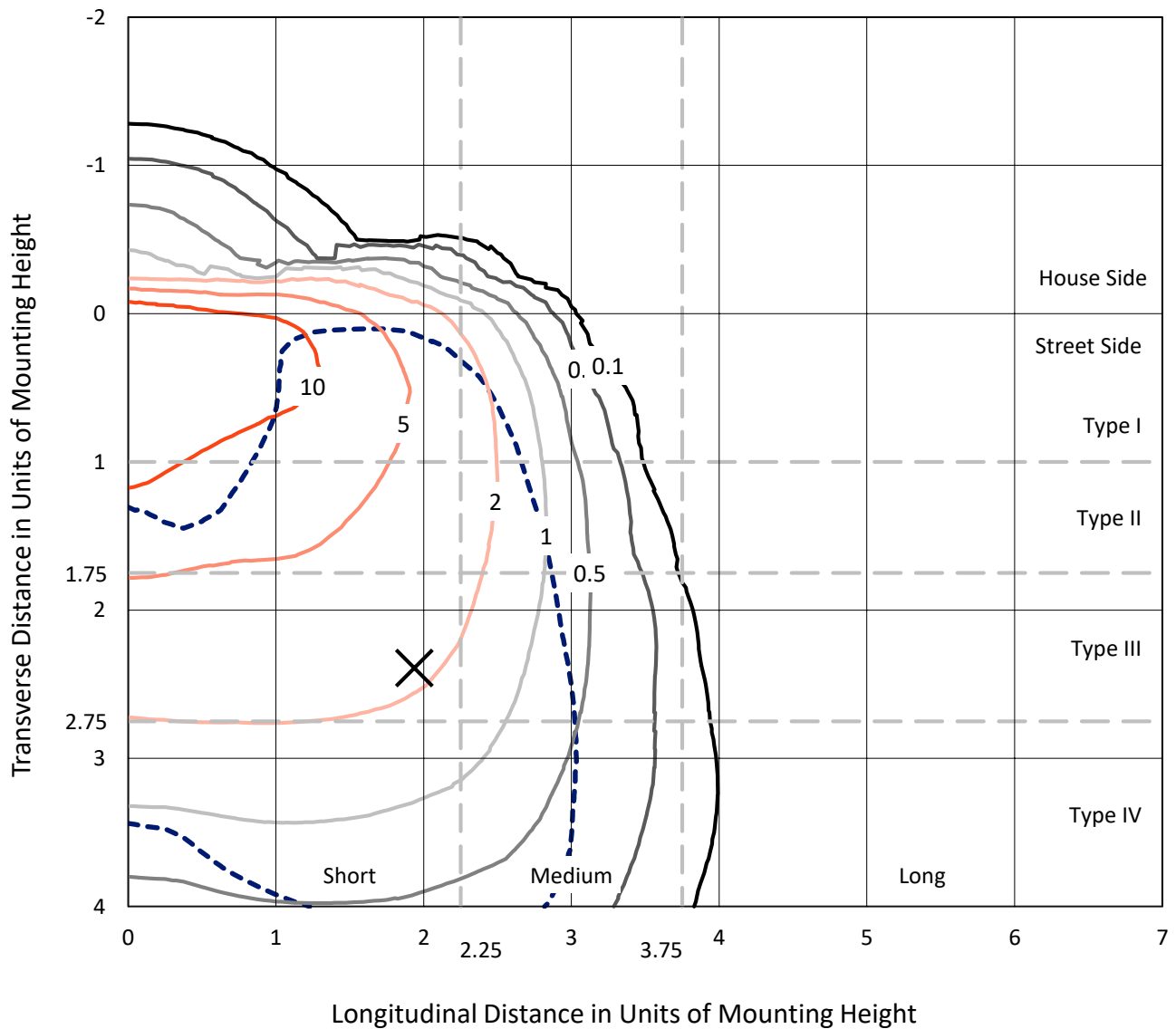
Input Watts (W): 124
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

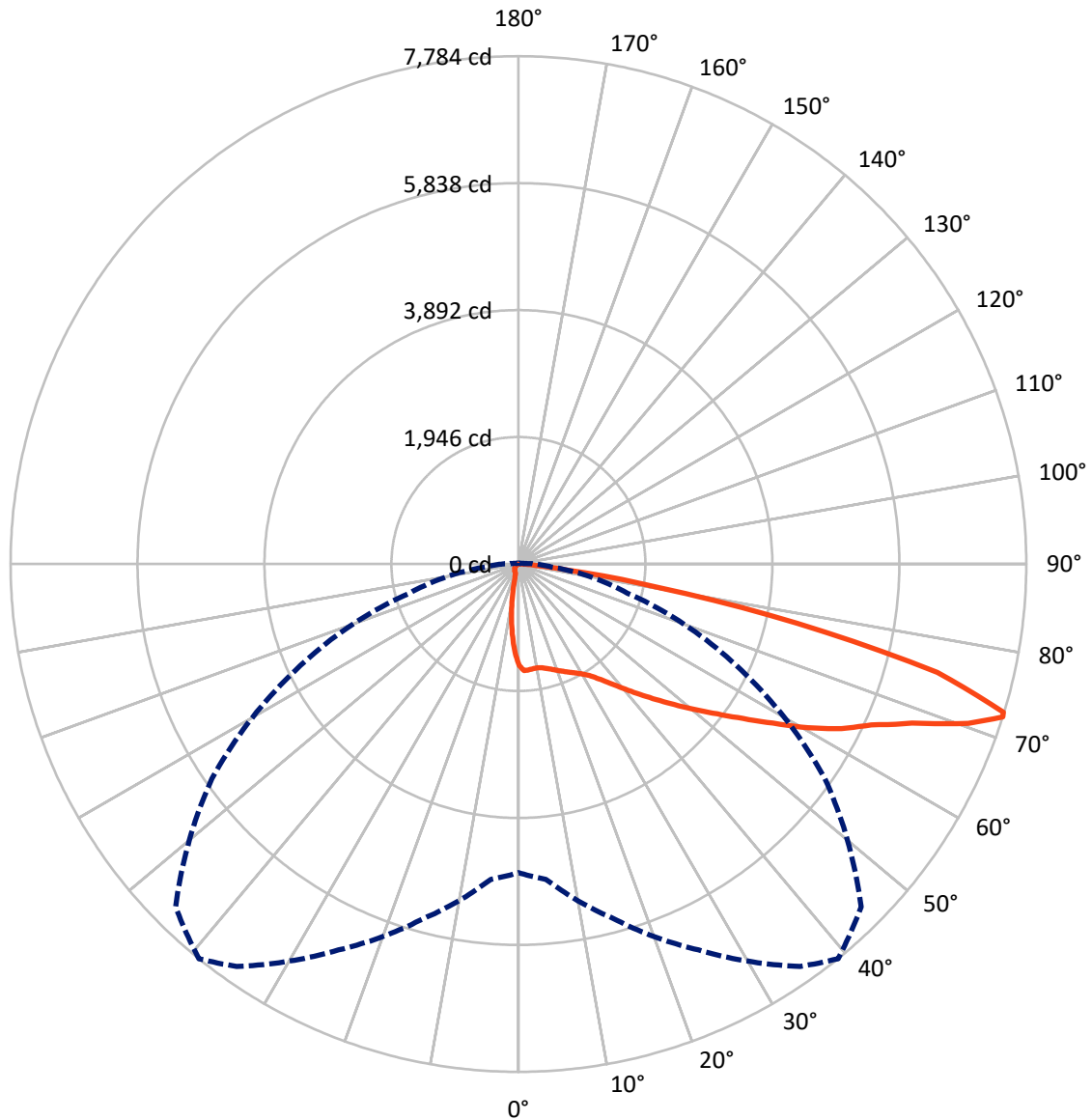
× Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 16.4 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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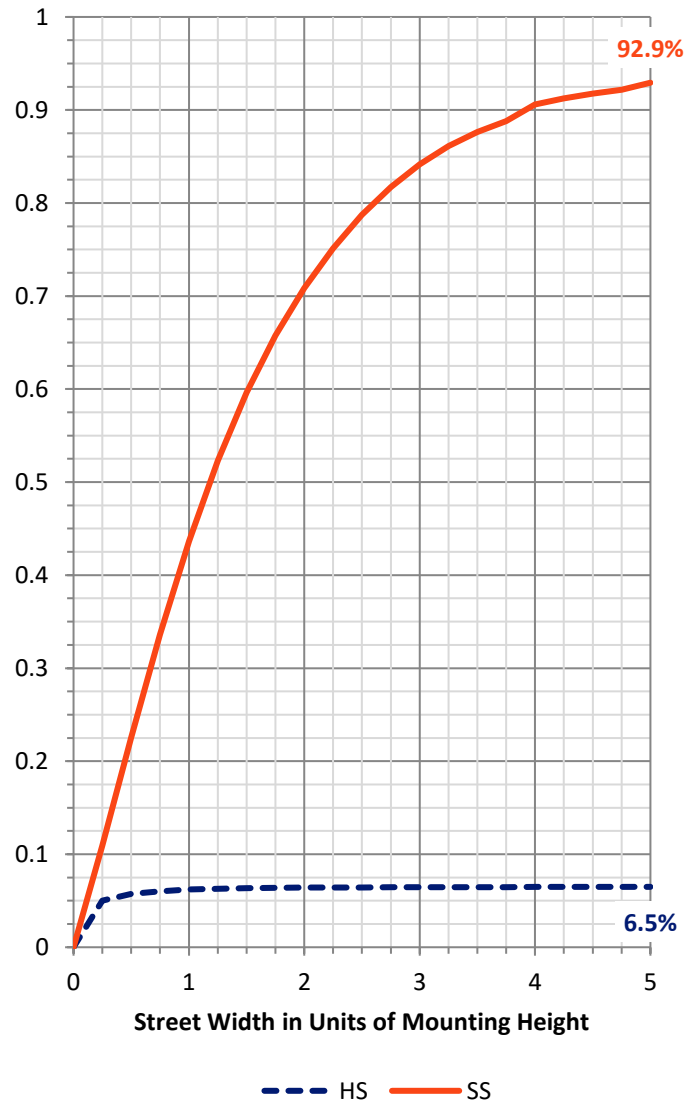
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	637.6	0.0	637.6
	% Fixture	6.6	0.0	6.6
Street Side	Lumens	9090.4	0.0	9090.4
	% Fixture	93.4	0.0	93.4
Total	Lumens	9728.0	0.0	9728.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	126.6	1.3
10°-20°	306.6	3.2
20°-30°	509.2	5.2
30°-40°	811.6	8.3
40°-50°	1339.6	13.8
50°-60°	2023.1	20.8
60°-70°	2635.4	27.1
70°-80°	1780.8	18.3
80°-90°	195.0	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°	9728.0	100.0
0°-180°	9728.0	100.0

Coefficient of Utilization



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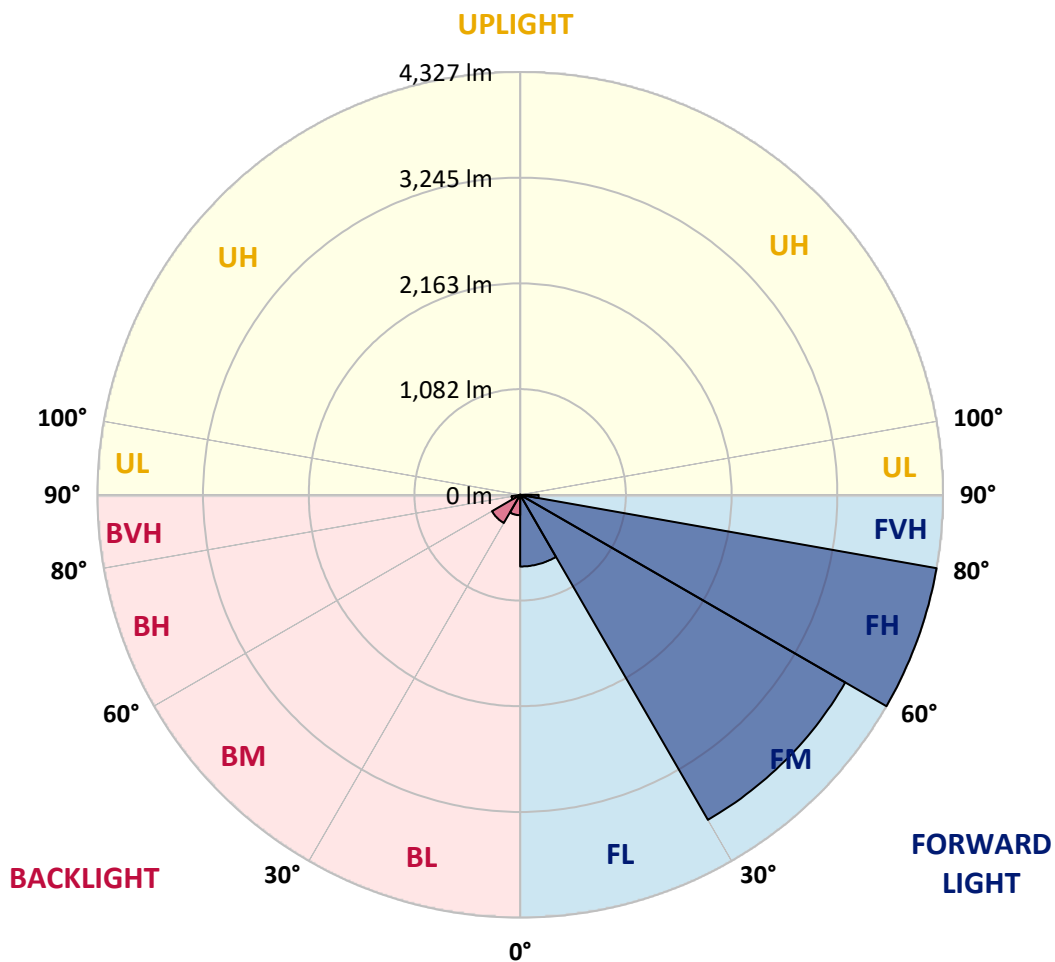
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	733.7	7.5			
FM	(30°-60°)	3840.7	39.5			
FH	(60°-80°)	4326.6	44.5			G2/5000
FVH	(80°-90°)	189.4	1.9			G2/225
BL	(0°-30°)	208.8	2.1	B1/500		
BM	(30°-60°)	333.6	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°	1557.0	1557.0	1557.0	1557.0	1557.0	1557.0	1557.0	1557.0	1557.0	1557.0	1557.0
2.5°	1658.0	1661.0	1657.2	1650.3	1640.4	1634.3	1625.9	1607.5	1584.6	1564.7	1541.7
5°	1671.0	1672.5	1667.9	1654.9	1639.6	1631.2	1620.5	1600.6	1576.9	1549.4	1508.1
7.5°	1674.8	1674.0	1668.7	1652.6	1628.9	1618.2	1599.9	1575.4	1550.9	1525.7	1479.0
10°	1673.3	1673.3	1669.4	1654.2	1627.4	1617.4	1596.8	1570.8	1540.2	1515.0	1465.3
12.5°	1667.9	1671.0	1668.7	1660.3	1640.4	1632.7	1614.4	1588.4	1559.3	1533.3	1480.6
15°	1674.8	1679.4	1684.0	1680.9	1669.4	1662.6	1645.7	1619.0	1595.3	1567.7	1511.1
17.5°	1702.3	1712.3	1723.0	1723.7	1711.5	1699.3	1680.2	1652.6	1629.7	1604.4	1543.3
20°	1754.3	1762.0	1781.9	1785.7	1761.2	1743.6	1716.9	1684.7	1661.8	1640.4	1573.1
22.5°	1831.6	1840.0	1856.0	1850.7	1809.4	1788.7	1755.1	1718.4	1694.7	1682.4	1607.5
25°	1948.6	1950.9	1954.7	1931.0	1862.9	1840.0	1798.7	1757.4	1738.3	1736.7	1656.4
27.5°	2086.2	2089.3	2072.5	2019.7	1922.6	1892.8	1846.1	1808.6	1799.5	1810.9	1718.4
30°	2243.8	2244.5	2197.9	2112.2	1991.4	1958.5	1910.3	1869.0	1877.5	1905.8	1797.9
32.5°	2405.1	2397.5	2333.2	2221.6	2085.5	2045.7	2004.4	1963.1	1987.6	2044.9	1914.2
35°	2552.7	2549.7	2474.0	2344.0	2207.8	2172.7	2142.8	2099.2	2139.0	2232.3	2072.5
37.5°	2700.3	2698.0	2611.6	2476.3	2358.5	2333.2	2311.1	2277.4	2342.4	2479.3	2284.3
40°	2863.2	2859.4	2753.1	2623.1	2533.6	2519.8	2506.8	2492.3	2603.2	2793.6	2548.1
42.5°	3064.3	3047.5	2903.0	2782.9	2726.3	2730.2	2730.9	2745.4	2919.0	3167.6	2859.4
45°	3295.3	3257.8	3053.6	2954.2	2938.2	2961.1	2984.1	3044.5	3286.9	3598.1	3203.5
47.5°	3519.4	3459.0	3227.2	3138.5	3171.4	3218.8	3273.9	3391.7	3699.9	4048.6	3515.6
50°	3712.1	3650.1	3399.3	3325.9	3430.7	3501.0	3598.9	3777.1	4135.8	4429.4	3712.1
52.5°	3863.5	3814.6	3581.3	3532.4	3718.2	3814.6	3968.3	4202.3	4547.2	4680.3	3849.7
55°	3975.2	3950.7	3755.7	3762.6	4037.9	4177.1	4368.2	4632.9	4894.4	4875.3	3953.0
57.5°	4101.3	4082.2	3938.5	4034.1	4422.5	4602.3	4823.3	5035.9	5146.8	5032.0	4053.9
60°	4230.6	4236.7	4160.2	4362.9	4898.2	5097.1	5289.8	5342.5	5363.2	5191.1	4160.2
62.5°	4328.5	4354.5	4361.4	4717.7	5386.1	5555.9	5639.3	5601.8	5597.2	5404.5	4151.8
65°	4440.9	4509.0	4622.1	5107.0	5829.7	5941.3	6001.0	6055.3	5940.6	5468.0	3743.4
67.5°	4635.1	4742.2	4996.9	5584.2	6342.1	6507.3	6676.3	6618.9	5991.8	4823.3	2851.7
70°	4896.7	5027.5	5477.1	6207.5	7037.2	7314.1	7455.5	6573.8	5087.1	3332.8	1504.3
72°	4731.5	4850.0	5625.5	6525.6	7529.7	7783.6	7429.5	5734.1	3687.6	1727.6	504.0
72.5°	4570.9	4693.3	5578.1	6521.8	7578.7	7772.9	7260.5	5403.0	3263.2	1344.4	347.2
75°	3171.4	3325.9	4782.0	5862.6	6843.7	6630.4	5555.1	3271.6	1182.3	231.0	114.7
77.5°	1639.6	1758.9	2900.7	4142.6	4769.7	4368.2	3283.1	1419.4	327.3	122.4	75.7
80°	1016.4	1075.2	1356.7	2041.1	2477.8	2167.3	1448.4	573.6	209.5	72.7	60.4
82.5°	526.1	571.3	854.2	823.6	915.4	760.9	534.6	480.3	129.2	45.1	61.9
85°	172.8	183.5	524.6	547.6	391.6	263.1	237.1	458.1	37.5	29.1	52.8
87.5°	22.9	26.8	184.3	313.5	192.7	119.3	142.2	161.4	13.0	16.1	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°	1557.0	1557.0	1557.0	1557.0	1557.0	1557.0	1557.0	1557.0	1557.0	1557.0	1557.0
2.5°	1526.4	1516.5	1485.1	1453.8	1417.8	1385.0	1359.0	1342.1	1349.8	1324.5	1328.4
5°	1482.8	1457.6	1388.8	1314.6	1234.3	1159.4	1099.7	1055.4	1046.9	1008.7	1010.2
7.5°	1440.8	1399.5	1287.8	1165.5	1032.4	924.6	826.7	741.0	710.5	679.1	660.7
10°	1417.8	1361.3	1203.0	1024.8	837.4	679.1	541.4	433.6	388.5	355.6	339.5
12.5°	1424.7	1349.8	1139.5	897.1	650.8	449.7	305.9	227.1	199.6	184.3	179.0
15°	1447.7	1352.1	1082.1	772.4	473.4	272.3	179.7	153.7	151.4	150.7	149.9
17.5°	1469.1	1354.4	1021.7	642.4	316.6	173.6	144.5	142.2	142.2	142.2	142.2
20°	1491.3	1355.1	955.2	506.3	208.0	142.2	136.1	134.6	136.1	136.1	136.1
22.5°	1517.3	1360.5	890.9	374.0	153.7	133.8	130.0	129.2	130.0	130.0	129.2
25°	1549.4	1372.0	821.3	267.7	139.2	128.5	124.7	123.9	124.7	123.9	123.9
27.5°	1592.2	1387.3	740.3	192.0	133.1	123.1	119.3	119.3	119.3	118.5	118.5
30°	1647.3	1405.6	631.7	151.4	126.9	117.8	114.7	114.7	113.9	113.2	113.2
32.5°	1726.0	1435.4	513.1	136.9	120.1	110.9	107.8	108.6	107.8	107.1	106.3
35°	1837.7	1482.1	396.1	129.2	113.2	104.0	100.9	100.9	100.9	99.4	99.4
37.5°	1996.0	1553.2	296.7	121.6	106.3	97.1	93.3	93.3	92.5	91.0	91.8
40°	2191.8	1642.7	214.9	114.7	99.4	89.5	86.4	84.9	83.4	81.8	81.8
42.5°	2427.3	1729.9	161.4	107.8	92.5	83.4	79.5	78.0	74.9	73.4	72.7
45°	2691.2	1822.4	133.8	99.4	84.9	76.5	73.4	70.4	66.5	64.2	63.5
47.5°	2913.7	1879.0	119.3	91.0	77.2	69.6	66.5	61.9	57.4	55.8	55.8
50°	3047.5	1855.3	107.1	82.6	69.6	62.7	58.9	52.8	49.7	48.2	47.4
52.5°	3122.5	1784.9	97.1	75.7	62.7	55.1	49.7	44.4	42.8	41.3	41.3
55°	3173.7	1683.2	86.4	68.8	56.6	48.2	42.1	38.2	36.7	35.9	35.2
57.5°	3222.7	1559.3	76.5	62.7	50.5	42.8	35.9	34.4	31.4	30.6	30.6
60°	3237.2	1388.8	67.3	55.8	45.1	37.5	31.4	29.1	26.0	25.2	25.2
62.5°	3052.1	1105.1	59.7	47.4	39.8	32.1	27.5	24.5	21.4	21.4	21.4
65°	2550.4	750.2	51.2	41.3	35.2	27.5	23.7	19.9	18.4	18.4	18.4
67.5°	1776.5	418.3	43.6	35.2	29.8	22.9	19.9	16.8	16.1	16.8	16.8
70°	800.7	166.0	36.7	29.1	24.5	19.1	16.8	14.5	16.1	16.1	16.1
72°	240.1	88.7	30.6	23.7	19.9	16.8	14.5	13.8	15.3	16.1	16.1
72.5°	178.2	79.5	29.1	22.9	19.9	16.1	13.8	13.8	15.3	16.1	16.1
75°	91.8	54.3	22.2	16.8	14.5	13.0	11.5	13.0	15.3	15.3	15.3
77.5°	71.9	44.4	18.4	13.0	12.2	11.5	10.7	12.2	13.8	13.8	13.8
80°	67.3	29.1	14.5	12.2	10.7	9.9	9.9	10.7	12.2	13.0	13.0
82.5°	68.1	23.7	13.0	11.5	9.9	9.2	9.2	9.9	11.5	12.2	12.2
85°	43.6	16.1	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)