

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: INVUE

Report Number: P368434

Luminaire Tested: **MSA-SA4B-830-U-SL4**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P368434
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-20)
Test Lab: INNOVATION CENTER
Issue Date: 12/2/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: INVUE
Catalog Number: MSA-SA4B-830-U-SL4
Description: MESA POST TOP DECORATIVE LUMINAIRE. (4) 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: 15039 lumens
Efficiency: N/A
Efficacy: 87.9 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type IV - Short
BUG Rating: B2 - U0 - G3

Input Watts (W): 171
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: 28.75 FT



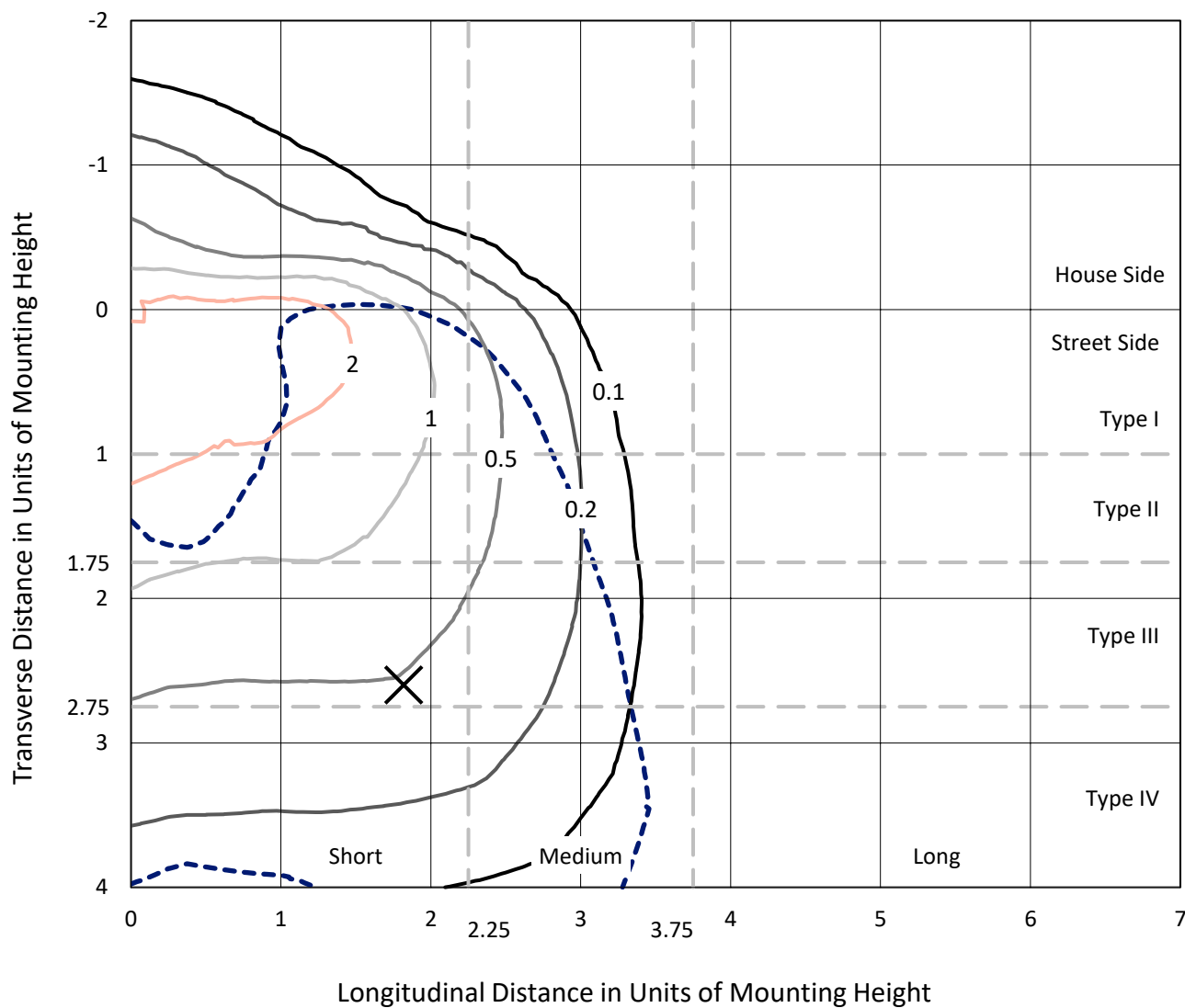
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Iso-Footcandle Lines of Horizontal Illumination

✕ Max cd

--- 1/2 Max cd



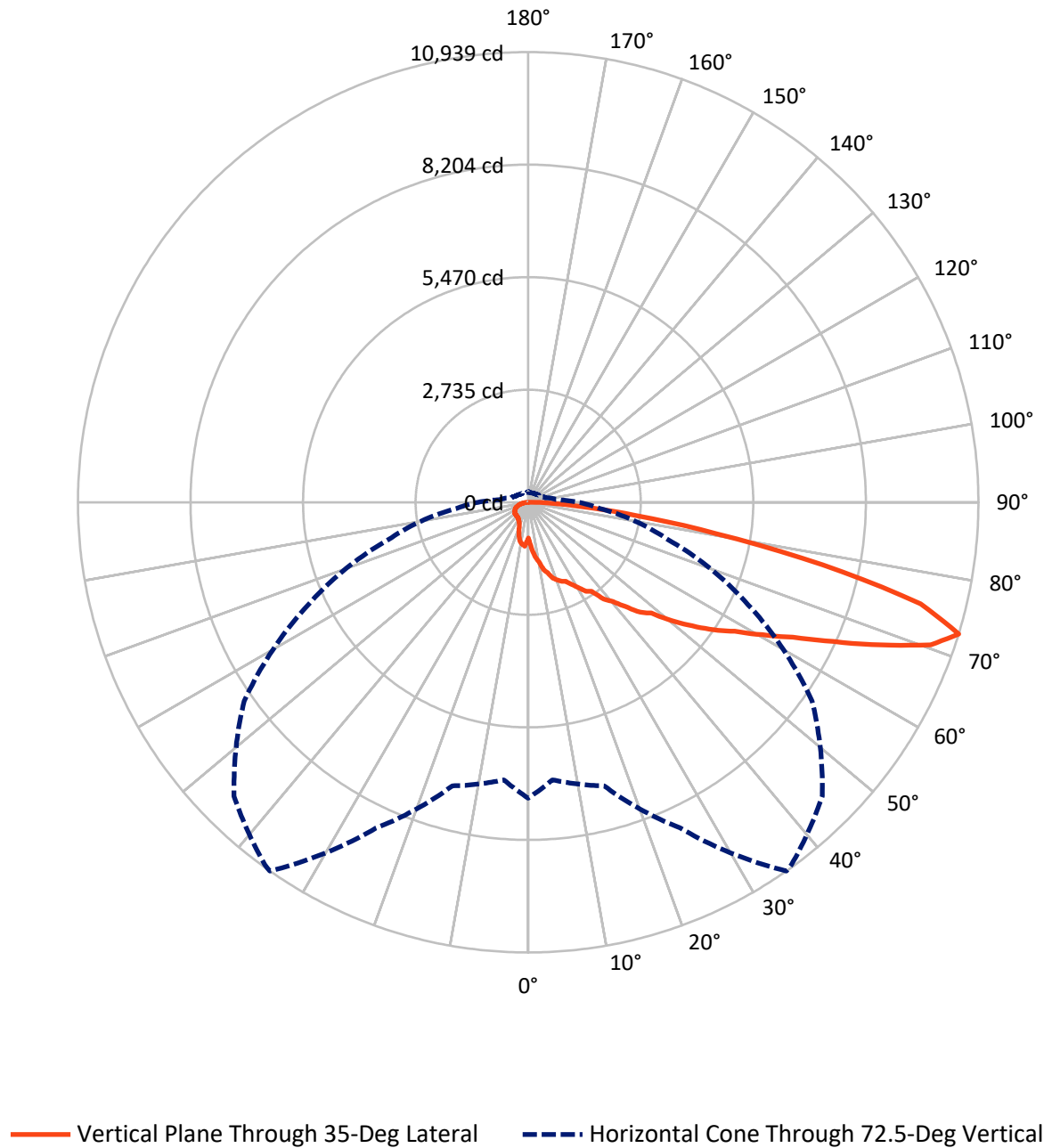
Based on 25 foot mounting height. Maximum calculated value = 3 fc

Type IV - Short - N/A

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Luminous Intensity Polar Plot



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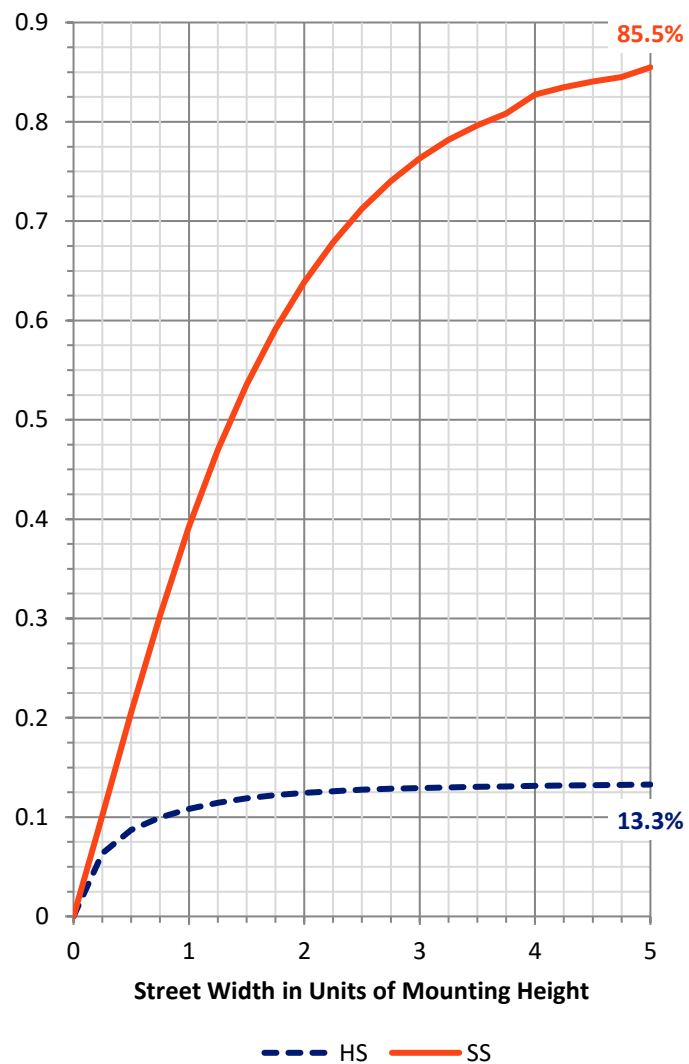
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	2018.2	0.0	2018.2
	% Fixture	13.4	0.0	13.4
Street Side	Lumens	13020.8	0.0	13020.8
	% Fixture	86.6	0.0	86.6
Total	Lumens	15039.0	0.0	15039.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	115.5	0.8
10°-20°	406.9	2.7
20°-30°	707.0	4.7
30°-40°	1181.6	7.9
40°-50°	2050.8	13.6
50°-60°	3100.3	20.6
60°-70°	4016.4	26.7
70°-80°	2963.7	19.7
80°-90°	496.7	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°	15039.0	100.0
0°-180°	15039.0	100.0

Coefficient of Utilization



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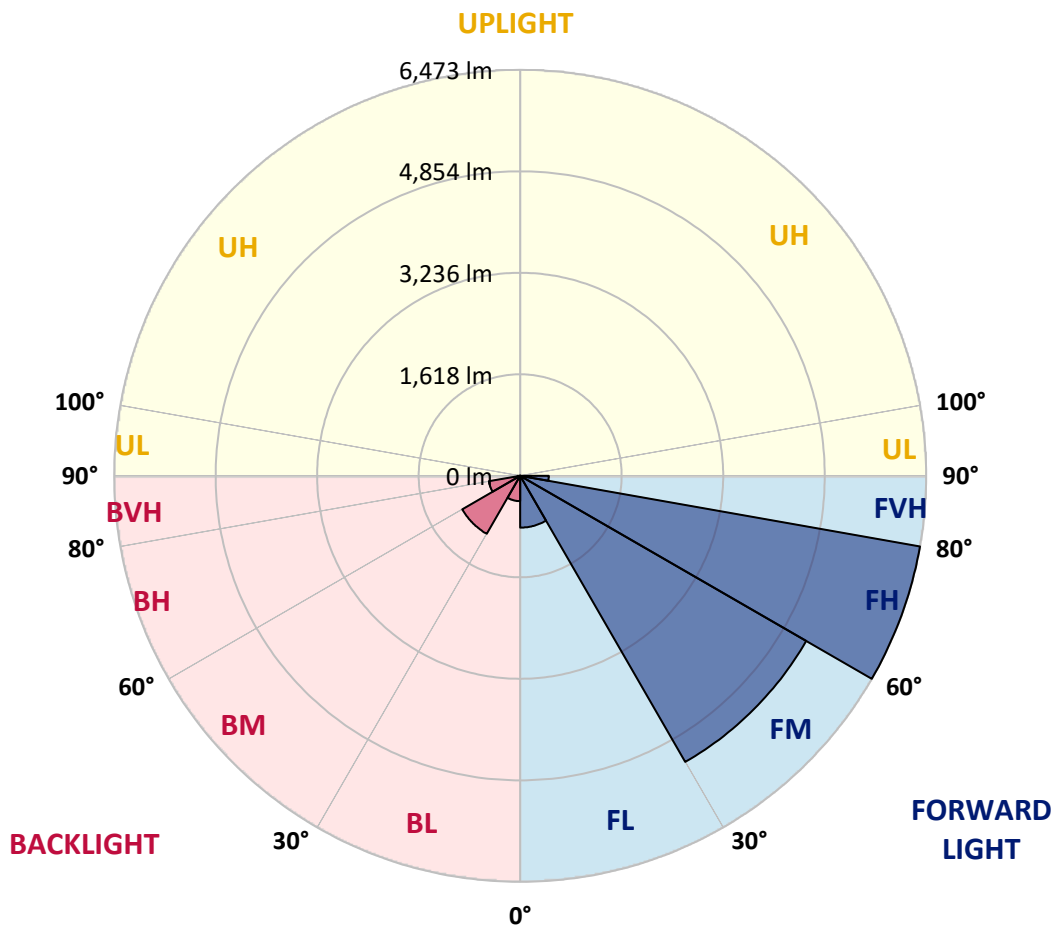
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	826.0	5.5			
FM	(30°-60°)	5266.1	35.0			
FH	(60°-80°)	6472.7	43.0			G3/7500
FVH	(80°-90°)	456.1	3.0			G3/500
BL	(0°-30°)	403.4	2.7	B1/500		
BM	(30°-60°)	1066.7	7.1	B2/2500		
BH	(60°-80°)	507.5	3.4	B2/1000		G2/1000
BVH	(80°-90°)	40.7	0.3			G1/100
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B2-U0-G3

Type IV Short



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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	36°	45°	55°	65°	75°	85°
0°	869.1	869.1	869.1	869.1	869.1	869.1	869.1	869.1	869.1	869.1	869.1
2.5°	1084.1	1032.1	987.2	985.3	1027.0	1043.1	1036.6	1022.5	1005.8	970.5	1047.6
5°	1358.2	1283.8	1269.6	1253.0	1215.1	1225.4	1163.7	1210.6	1225.4	1259.4	1310.7
7.5°	1520.0	1476.3	1442.3	1428.2	1362.7	1355.0	1309.4	1376.2	1404.4	1399.9	1476.3
10°	1583.5	1543.7	1546.3	1500.1	1478.9	1487.9	1493.0	1494.3	1511.6	1525.8	1487.2
12.5°	1616.3	1631.7	1688.2	1656.7	1683.7	1694.6	1748.5	1693.3	1695.2	1622.7	1662.5
15°	1781.2	1819.7	1787.0	1785.7	1777.4	1795.3	1841.6	1804.3	1833.2	1810.1	1758.8
17.5°	1980.2	1991.8	1928.9	1903.2	1936.6	1930.8	1919.2	1925.0	1853.1	1986.6	1923.7
20°	2041.2	2086.8	2004.0	1903.2	2013.6	2028.4	2025.8	2000.8	1877.5	2070.1	2009.1
22.5°	2218.3	2156.7	2091.3	2027.1	2083.6	2091.9	2077.8	2018.1	1977.0	2050.2	2098.3
25°	2298.6	2283.8	2200.4	2192.7	2130.4	2100.9	2125.3	2107.9	2067.5	2197.8	2144.5
27.5°	2482.2	2464.8	2272.9	2351.9	2261.4	2253.7	2124.6	2182.4	2222.8	2213.2	2292.8
30°	2690.1	2710.0	2429.5	2508.5	2403.9	2389.7	2260.1	2333.2	2360.8	2369.8	2469.3
32.5°	2921.2	2975.8	2697.2	2632.4	2576.5	2586.1	2476.4	2342.9	2450.1	2660.0	2703.0
35°	3171.5	3194.0	2902.0	2804.4	2658.7	2648.4	2650.3	2667.0	2775.5	3014.9	3048.3
37.5°	3634.3	3530.4	3274.2	3027.1	2978.3	2882.7	2947.5	2998.9	3107.4	3474.5	3614.4
40°	3919.3	3842.3	3452.0	3308.9	3174.1	3183.1	3304.4	3303.8	3559.9	3938.6	4152.3
42.5°	4183.2	4099.1	3731.3	3587.5	3459.8	3491.2	3525.9	3586.8	4077.9	4688.3	4785.9
45°	4395.6	4211.4	3946.9	3914.8	3809.6	3767.9	3914.8	4012.4	4697.3	5294.9	5351.4
47.5°	4540.0	4388.6	4129.9	4101.6	4024.0	4126.0	4527.2	4590.1	5177.4	5904.0	5899.6
50°	4759.6	4552.2	4318.6	4303.8	4522.7	4577.3	5066.4	5060.0	5644.7	6409.8	6303.9
52.5°	5012.5	4751.2	4497.7	4656.2	4990.0	5017.0	5441.2	5613.9	6155.0	6897.7	6621.0
55°	5303.2	5011.2	4766.0	4977.8	5474.6	5395.0	5824.5	6246.2	6793.7	7411.8	6850.2
57.5°	5663.3	5309.0	5110.7	5432.9	5916.9	5987.5	6373.3	6904.1	7307.8	7731.5	7017.1
60°	6043.3	5627.4	5445.7	5752.6	6536.3	6617.2	6994.6	7451.0	7884.3	8032.5	6985.6
62.5°	6406.0	5956.0	5791.7	6170.4	7223.1	7423.4	7702.0	7992.7	8363.7	8105.7	6605.0
65°	6809.7	6359.1	6255.8	6823.9	8154.5	8353.5	8717.4	8630.1	8528.1	7846.4	5975.3
67.5°	7237.2	6779.6	6798.8	7581.9	9252.8	9286.8	9845.9	9265.6	8334.9	7159.6	4918.1
70°	7467.0	6998.5	7196.8	8390.1	10370.3	10321.5	10435.7	9436.3	7547.3	5659.5	3389.8
72.5°	7188.5	6770.6	7133.9	8730.3	10939.0	10886.3	10104.5	8422.8	5900.8	3519.4	1757.5
75°	6086.3	5683.2	6239.1	7782.2	9847.8	9896.6	8599.3	6263.5	3378.2	1415.4	729.8
77.5°	4135.7	3927.7	4404.0	5800.7	7314.9	7483.7	6380.3	3662.6	1418.6	586.0	441.6
80°	2185.6	2086.8	2438.5	3341.6	4631.8	4757.6	3751.8	1824.2	726.6	379.4	315.2
82.5°	1187.5	1145.8	1334.5	1718.3	2631.7	2741.5	1945.5	1211.9	489.8	237.5	192.6
85°	797.9	781.8	907.0	923.0	1244.6	1280.6	1019.3	933.3	294.0	116.2	127.1
87.5°	399.3	383.2	477.6	421.7	475.0	475.6	467.3	595.7	74.5	38.5	23.1
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°	869.1	869.1	869.1	869.1	869.1	869.1	869.1	869.1	869.1	869.1	869.1
2.5°	1048.8	1026.4	948.7	948.1	959.6	951.9	957.7	926.2	912.8	974.4	971.2
5°	1303.7	1236.3	1171.4	1149.0	1122.7	1065.5	1068.7	1069.4	1059.7	1096.3	1098.9
7.5°	1453.2	1372.3	1312.7	1193.3	1099.5	1026.4	1036.0	1046.9	1036.0	1084.8	1102.8
10°	1475.0	1410.9	1339.6	1206.7	1144.5	1078.4	1011.6	952.6	945.5	923.0	930.1
12.5°	1604.7	1551.4	1402.5	1256.8	1184.3	1082.9	960.9	893.5	837.0	846.6	828.7
15°	1711.3	1673.4	1494.9	1304.3	1131.0	1005.2	875.5	783.1	732.4	726.6	708.6
17.5°	1855.7	1801.8	1503.3	1271.6	1062.3	911.5	765.1	660.5	638.7	629.7	620.7
20°	1925.0	1828.1	1473.1	1168.9	982.1	799.8	656.0	566.1	559.7	575.8	572.6
22.5°	1985.3	1849.9	1446.2	1106.6	856.9	686.8	581.5	522.5	515.4	536.0	539.8
25°	2020.6	1912.2	1416.6	1043.1	779.2	602.7	525.7	492.3	493.6	520.6	517.4
27.5°	2179.8	1934.0	1342.2	968.0	690.0	540.5	498.7	481.4	474.4	511.6	514.8
30°	2280.0	2076.5	1325.5	888.4	623.9	494.9	474.4	467.3	466.0	510.9	514.1
32.5°	2466.1	2124.0	1333.2	801.7	564.2	480.8	456.4	455.7	468.6	511.6	516.7
35°	2724.2	2324.3	1296.0	752.3	531.5	458.9	442.3	447.4	469.2	516.1	523.1
37.5°	3227.4	2513.0	1307.5	706.1	520.6	451.9	438.4	441.6	476.9	527.6	546.9
40°	3626.0	2855.1	1289.5	683.0	505.8	450.6	430.1	442.9	476.3	534.0	551.4
42.5°	4203.7	3127.9	1291.5	659.9	505.2	445.5	428.8	444.2	475.0	528.3	552.0
45°	4699.2	3372.5	1319.1	646.4	498.7	453.8	426.9	446.1	466.6	507.7	534.0
47.5°	5105.5	3645.3	1347.3	633.5	496.2	461.5	424.9	432.6	452.5	484.6	508.4
50°	5436.8	3837.2	1383.3	631.0	496.2	457.7	419.8	419.1	435.8	461.5	484.0
52.5°	5694.8	3972.6	1407.7	634.2	496.2	442.9	413.4	408.2	418.5	437.1	459.6
55°	5881.6	4014.3	1387.8	642.5	495.5	429.4	401.8	397.3	402.5	415.3	436.5
57.5°	5956.7	3904.6	1269.0	627.8	495.5	419.8	387.7	382.6	387.7	397.3	418.5
60°	5768.6	3551.5	1097.6	589.9	485.9	407.0	371.7	368.4	376.1	384.5	405.0
62.5°	5296.8	3082.3	914.7	545.0	466.0	396.0	356.2	356.9	369.1	380.6	401.2
65°	4563.8	2514.9	762.6	499.4	441.0	378.7	340.2	344.7	362.0	377.4	398.0
67.5°	3591.3	1863.4	641.9	455.1	405.7	350.5	322.2	323.5	335.7	350.5	370.4
70°	2400.6	1185.6	527.6	403.1	359.5	313.9	294.6	290.1	286.9	299.8	317.1
72.5°	1217.7	700.3	433.3	344.7	309.4	274.1	259.3	247.8	238.8	246.5	260.0
75°	638.0	489.8	349.8	286.3	255.5	233.0	222.1	206.7	200.3	204.8	214.4
77.5°	451.2	383.2	283.1	226.6	208.0	184.9	186.8	170.7	165.6	168.2	178.4
80°	346.6	303.6	217.6	171.4	160.5	138.0	144.4	134.8	128.4	127.1	134.8
82.5°	236.2	228.5	154.7	120.0	112.3	96.3	105.3	101.4	93.1	87.9	91.8
85°	159.2	151.5	94.4	69.3	66.1	50.1	64.2	61.6	54.6	46.9	47.5
87.5°	27.6	50.7	27.0	17.3	16.0	5.8	14.8	14.1	12.8	6.4	5.1
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)