

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: P368654

Luminaire Tested: **MSA-SA4D-750-U-SL4**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P368654
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-SA4D-750-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: 25625 lumens
Efficiency: N/A
Efficacy: 98.9 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type IV - Short
BUG Rating: B2 - U0 - G5

Input Watts (W): 259
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: 24 FT



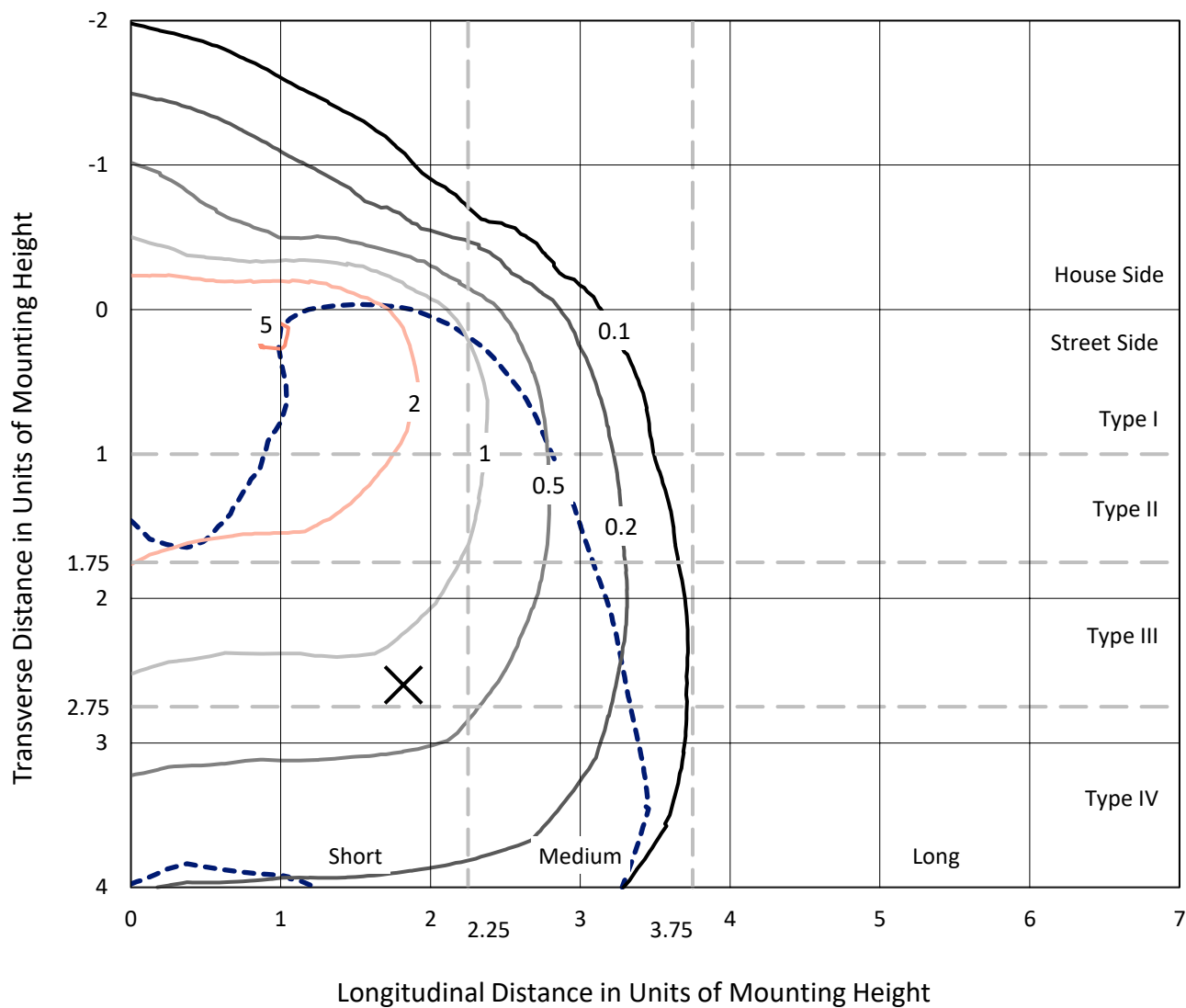
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Iso-Footcandle Lines of Horizontal Illumination

× Max cd

--- 1/2 Max cd

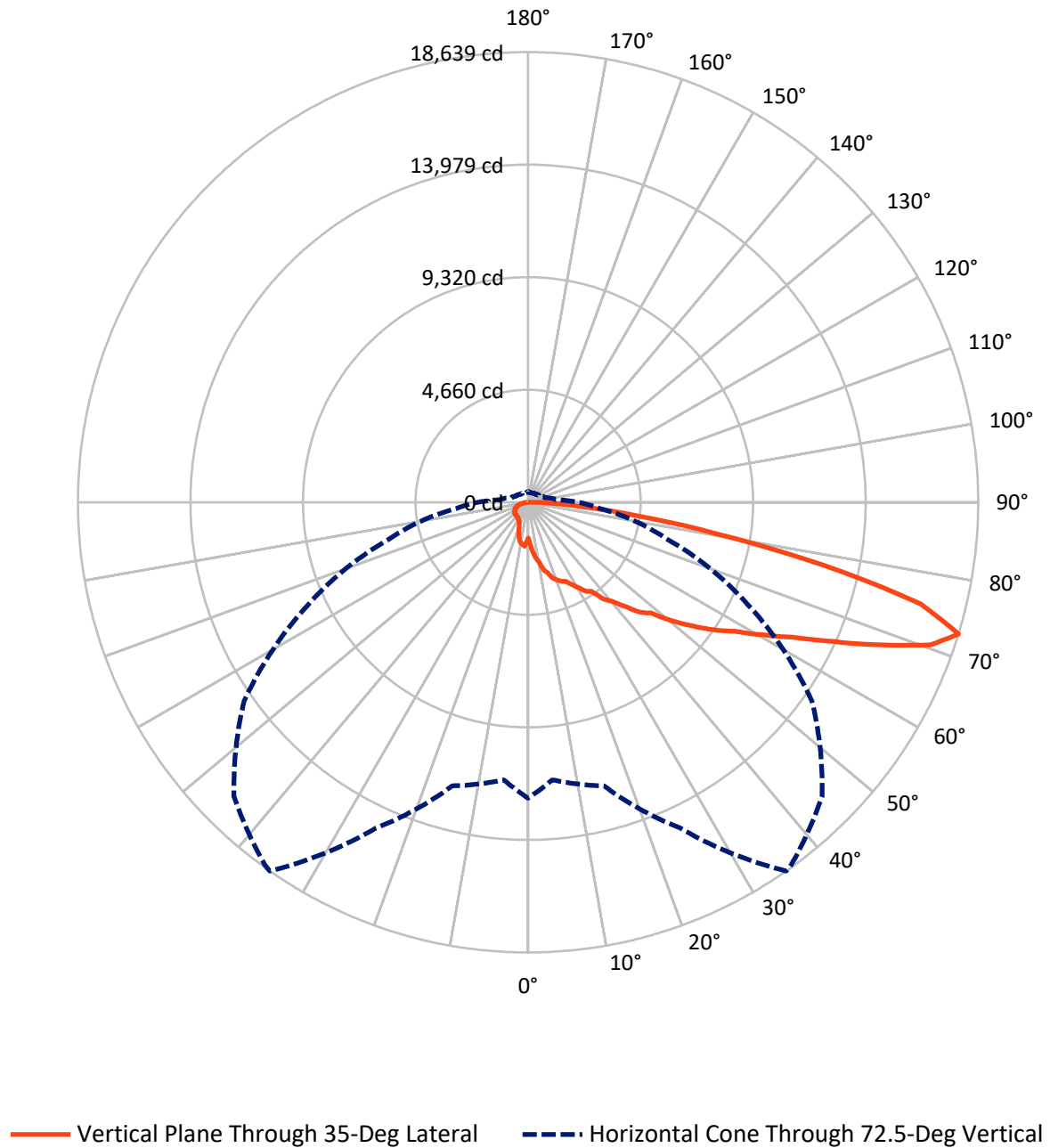


Based on 25 foot mounting height. Maximum calculated value = 5.1 fc

Type IV - Short - N/A

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Luminous Intensity Polar Plot



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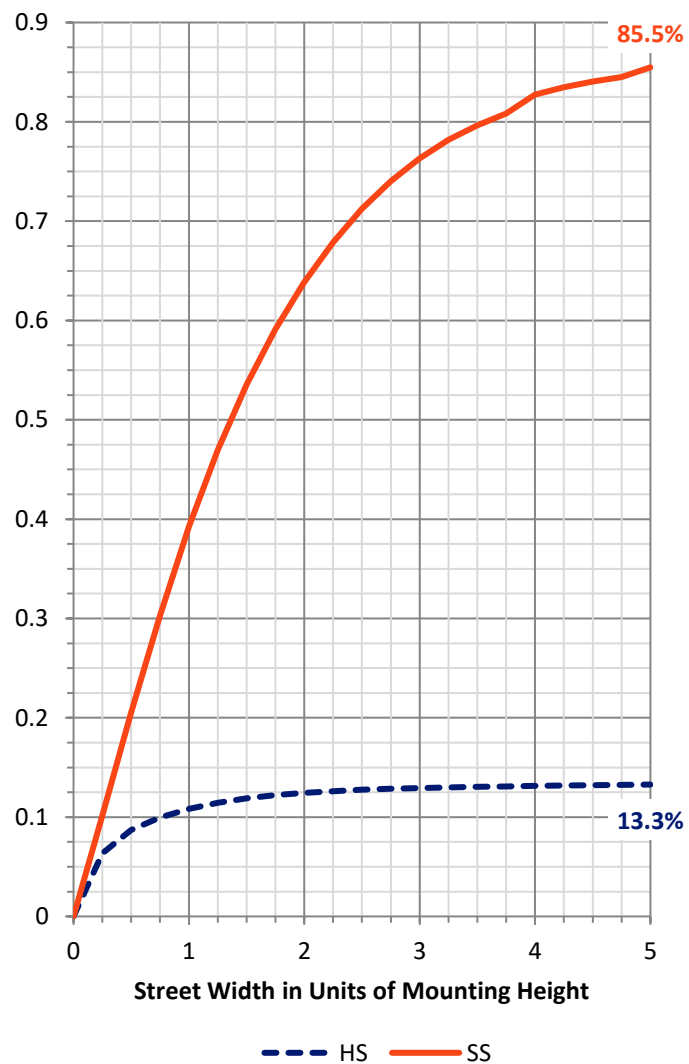
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	3438.8	0.0	3438.8
	% Fixture	13.4	0.0	13.4
Street Side	Lumens	22186.2	0.0	22186.2
	% Fixture	86.6	0.0	86.6
Total	Lumens	25625.0	0.0	25625.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	196.8	0.8
10°-20°	693.3	2.7
20°-30°	1204.6	4.7
30°-40°	2013.3	7.9
40°-50°	3494.4	13.6
50°-60°	5282.7	20.6
60°-70°	6843.6	26.7
70°-80°	5049.9	19.7
80°-90°	846.4	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°	25625.0	100.0
0°-180°	25625.0	100.0

Coefficient of Utilization



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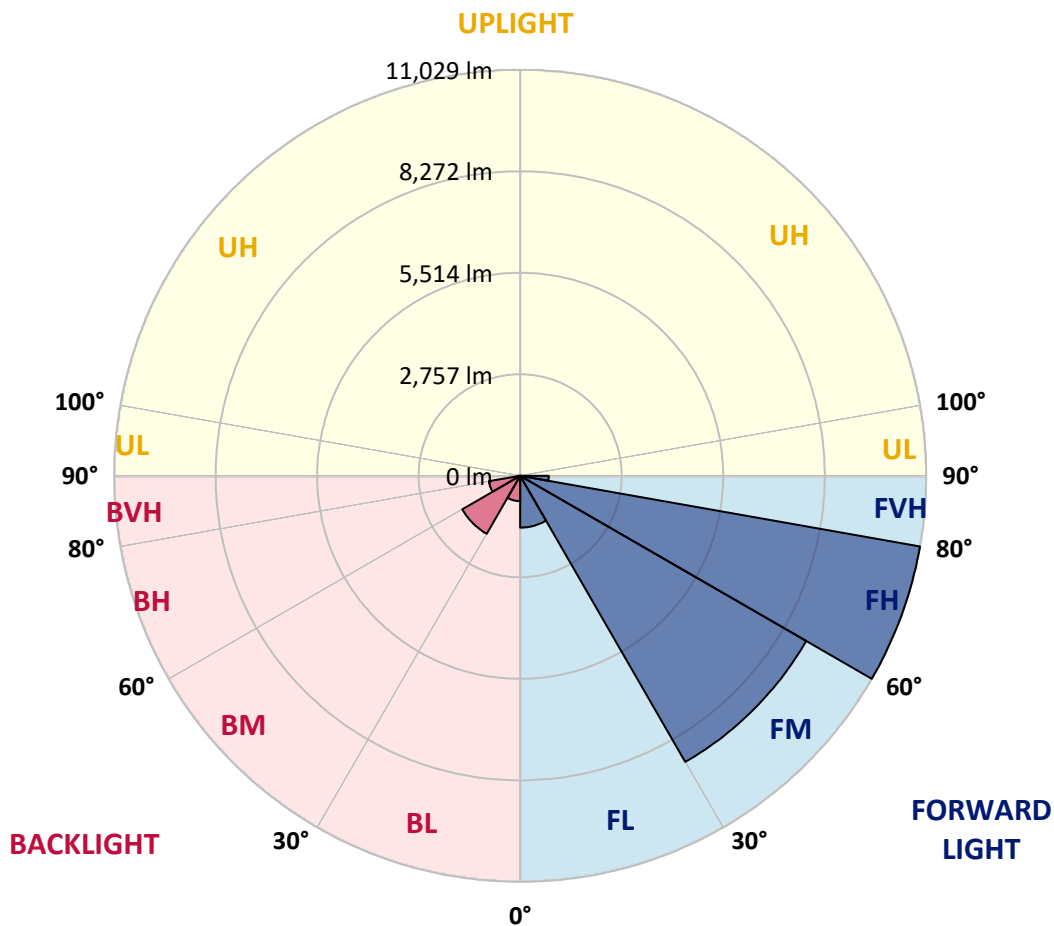
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1407.4	5.5			
FM	(30°-60°)	8973.0	35.0			
FH	(60°-80°)	11028.8	43.0			G4/12000
FVH	(80°-90°)	777.1	3.0			G5
BL	(0°-30°)	687.4	2.7	B2/1000		
BM	(30°-60°)	1817.5	7.1	B2/2500		
BH	(60°-80°)	864.7	3.4	B2/1000		G2/1000
BVH	(80°-90°)	69.3	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-G5

Type IV Short



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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	36°	45°	55°	65°	75°	85°
0°	1480.9	1480.9	1480.9	1480.9	1480.9	1480.9	1480.9	1480.9	1480.9	1480.9	1480.9
2.5°	1847.3	1758.7	1682.1	1678.8	1749.9	1777.3	1766.3	1742.3	1713.8	1653.7	1784.9
5°	2314.3	2187.4	2163.4	2134.9	2070.4	2087.9	1982.9	2062.7	2087.9	2145.9	2233.4
7.5°	2589.9	2515.5	2457.6	2433.5	2321.9	2308.8	2231.2	2344.9	2393.0	2385.4	2515.5
10°	2698.2	2630.4	2634.7	2556.0	2519.9	2535.2	2544.0	2546.2	2575.7	2599.7	2534.1
12.5°	2754.0	2780.2	2876.5	2822.9	2868.8	2887.4	2979.3	2885.2	2888.5	2764.9	2832.7
15°	3035.0	3100.7	3044.9	3042.7	3028.5	3059.1	3137.8	3074.4	3123.6	3084.3	2996.8
17.5°	3374.1	3393.8	3286.6	3242.8	3299.7	3289.9	3270.2	3280.0	3157.5	3385.0	3277.8
20°	3478.0	3555.6	3414.6	3242.8	3431.0	3456.1	3451.7	3409.1	3199.1	3527.2	3423.3
22.5°	3779.9	3674.9	3563.3	3453.9	3550.2	3564.4	3540.3	3438.6	3368.6	3493.3	3575.3
25°	3916.6	3891.4	3749.2	3736.1	3630.0	3579.7	3621.3	3591.7	3522.8	3744.9	3654.1
27.5°	4229.4	4199.8	3872.8	4007.3	3853.1	3840.0	3620.2	3718.6	3787.5	3771.1	3906.7
30°	4583.7	4617.6	4139.7	4274.2	4095.9	4071.9	3850.9	3975.6	4022.7	4038.0	4207.5
32.5°	4977.5	5070.4	4595.8	4485.3	4390.1	4406.5	4219.5	3992.0	4174.7	4532.3	4605.6
35°	5404.0	5442.3	4944.7	4778.4	4530.1	4512.6	4515.9	4544.4	4729.2	5137.1	5194.0
37.5°	6192.6	6015.4	5579.0	5157.9	5074.8	4911.8	5022.3	5109.8	5294.6	5920.2	6158.7
40°	6678.2	6546.9	5882.0	5638.1	5408.4	5423.7	5630.4	5629.3	6065.7	6711.0	7075.2
42.5°	7127.7	6984.4	6357.7	6112.7	5895.1	5948.7	6007.7	6111.6	6948.3	7988.4	8154.7
45°	7489.7	7175.8	6725.2	6670.5	6491.2	6420.1	6670.5	6836.8	8003.8	9022.0	9118.2
47.5°	7735.8	7477.7	7036.9	6988.8	6856.5	7030.4	7713.9	7821.1	8821.8	10059.9	10052.3
50°	8109.8	7756.6	7358.5	7333.3	7706.3	7799.2	8632.6	8621.7	9618.1	10921.8	10741.3
52.5°	8540.8	8095.6	7663.6	7933.8	8502.5	8548.4	9271.4	9565.6	10487.6	11753.0	11281.6
55°	9036.2	8538.6	8120.8	8481.7	9328.2	9192.6	9924.3	10642.9	11575.8	12629.0	11672.0
57.5°	9649.8	9046.1	8708.1	9257.1	10081.8	10202.1	10859.4	11763.9	12451.9	13173.7	11956.4
60°	10297.3	9588.5	9279.0	9801.8	11137.2	11275.0	11918.1	12695.8	13434.0	13686.7	11902.8
62.5°	10915.2	10148.5	9868.5	10513.8	12307.5	12648.7	13123.4	13618.8	14251.0	13811.3	11254.2
65°	11603.1	10835.4	10659.3	11627.2	13894.5	14233.5	14853.6	14704.9	14531.0	13369.5	10181.3
67.5°	12331.6	11551.7	11584.5	12918.9	15765.8	15823.8	16776.4	15787.7	14201.8	12199.2	8380.0
70°	12723.1	11924.7	12262.6	14295.8	17669.9	17586.8	17781.5	16078.6	12859.8	9643.2	5775.9
72.5°	12248.4	11536.4	12155.5	14875.5	18639.0	18549.3	17217.1	14351.6	10054.5	5996.8	2994.6
75°	10370.5	9683.7	10630.8	13260.1	16779.7	16862.8	14652.4	10672.4	5756.2	2411.6	1243.5
77.5°	7046.8	6692.4	7503.9	9883.8	12463.9	12751.5	10871.5	6240.7	2417.1	998.6	752.5
80°	3724.1	3555.6	4155.0	5693.8	7892.2	8106.6	6392.7	3108.3	1238.1	646.4	537.0
82.5°	2023.4	1952.3	2273.8	2927.9	4484.2	4671.2	3315.0	2064.9	834.5	404.7	328.1
85°	1359.5	1332.1	1545.4	1572.8	2120.7	2181.9	1736.8	1590.3	500.9	198.0	216.6
87.5°	680.3	652.9	813.7	718.6	809.3	810.4	796.2	1015.0	126.9	65.6	39.4
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°	1480.9	1480.9	1480.9	1480.9	1480.9	1480.9	1480.9	1480.9	1480.9	1480.9	1480.9
2.5°	1787.1	1748.8	1616.5	1615.4	1635.1	1622.0	1631.8	1578.2	1555.3	1660.2	1654.8
5°	2221.3	2106.5	1996.0	1957.7	1912.9	1815.6	1821.0	1822.1	1805.7	1868.1	1872.4
7.5°	2476.2	2338.3	2236.6	2033.2	1873.5	1748.8	1765.2	1783.8	1765.2	1848.4	1879.0
10°	2513.3	2404.0	2282.6	2056.2	1950.1	1837.4	1723.7	1623.1	1611.0	1572.8	1584.8
12.5°	2734.3	2643.5	2389.8	2141.5	2017.9	1845.1	1637.3	1522.4	1426.2	1442.6	1412.0
15°	2915.8	2851.3	2547.2	2222.4	1927.1	1712.7	1491.8	1334.3	1247.9	1238.1	1207.5
17.5°	3161.9	3070.0	2561.5	2166.6	1810.1	1553.1	1303.7	1125.4	1088.2	1072.9	1057.6
20°	3280.0	3114.9	2510.1	1991.6	1673.4	1362.8	1117.8	964.6	953.7	981.1	975.6
22.5°	3382.8	3152.1	2464.1	1885.6	1460.1	1170.3	990.9	890.3	878.2	913.2	919.8
25°	3443.0	3258.2	2413.8	1777.3	1327.8	1027.0	895.7	838.9	841.1	887.0	881.5
27.5°	3714.2	3295.3	2286.9	1649.3	1175.7	920.9	849.8	820.3	808.2	871.7	877.2
30°	3884.8	3538.1	2258.5	1513.7	1063.1	843.2	808.2	796.2	794.0	870.6	876.1
32.5°	4202.0	3619.1	2271.6	1366.0	961.4	819.2	777.6	776.5	798.4	871.7	880.4
35°	4641.7	3960.3	2208.2	1281.8	905.6	782.0	753.6	762.3	799.5	879.3	891.4
37.5°	5499.2	4281.9	2227.9	1203.1	887.0	770.0	747.0	752.5	812.6	899.0	931.8
40°	6178.4	4864.8	2197.3	1163.7	861.8	767.8	732.8	754.7	811.5	910.0	939.5
42.5°	7162.7	5329.6	2200.5	1124.3	860.7	759.0	730.6	756.8	809.3	900.1	940.6
45°	8007.0	5746.3	2247.6	1101.4	849.8	773.3	727.3	760.1	795.1	865.1	910.0
47.5°	8699.3	6211.2	2295.7	1079.5	845.4	786.4	724.0	737.2	771.1	825.7	866.2
50°	9263.7	6538.2	2356.9	1075.1	845.4	779.8	715.3	714.2	742.6	786.4	824.7
52.5°	9703.4	6769.0	2398.5	1080.6	845.4	754.7	704.3	695.6	713.1	744.8	783.1
55°	10021.6	6840.0	2364.6	1094.8	844.3	731.7	684.7	677.0	685.8	707.6	743.7
57.5°	10149.6	6653.0	2162.3	1069.6	844.3	715.3	660.6	651.8	660.6	677.0	713.1
60°	9829.1	6051.5	1870.2	1005.1	827.9	693.4	633.3	627.8	640.9	655.1	690.1
62.5°	9025.3	5252.0	1558.5	928.6	794.0	674.8	607.0	608.1	628.9	648.6	683.6
65°	7776.3	4285.1	1299.3	850.9	751.4	645.3	579.7	587.3	616.9	643.1	678.1
67.5°	6119.3	3175.0	1093.7	775.4	691.2	597.2	549.0	551.2	572.0	597.2	631.1
70°	4090.5	2020.1	899.0	686.8	612.5	534.8	502.0	494.4	488.9	510.8	540.3
72.5°	2074.8	1193.2	738.3	587.3	527.2	467.0	441.9	422.2	406.9	420.0	443.0
75°	1087.1	834.5	596.1	487.8	435.3	397.0	378.4	352.2	341.2	348.9	365.3
77.5°	768.9	652.9	482.3	386.1	354.4	315.0	318.3	290.9	282.2	286.6	304.1
80°	590.6	517.3	370.8	292.0	273.4	235.1	246.1	229.7	218.7	216.6	229.7
82.5°	402.5	389.4	263.6	204.5	191.4	164.1	179.4	172.8	158.6	149.8	156.4
85°	271.2	258.1	160.8	118.1	112.7	85.3	109.4	105.0	93.0	79.8	80.9
87.5°	47.0	86.4	45.9	29.5	27.3	9.8	25.2	24.1	21.9	10.9	8.7
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)