

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: P367490

Luminaire Tested: **MSA-SA2C-760-U-SLL**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P367490
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-24)
Test Lab: INNOVATION CENTER
Issue Date: 12/2/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: INVUE
Catalog Number: MSA-SA2C-760-U-SLL
Description: MESA POST TOP DECORATIVE LUMINAIRE. (2) LIGHTSQUARES WITH 16 LEDS
EACH AND SPILL LIGHT ELIMINATOR LEFT OPTICS.
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 10568 lumens
Efficiency: N/A
Efficacy: 93.5 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')
IES Classification: Type IV - Short
BUG Rating: B2 - U0 - G3

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: 28.75 FT

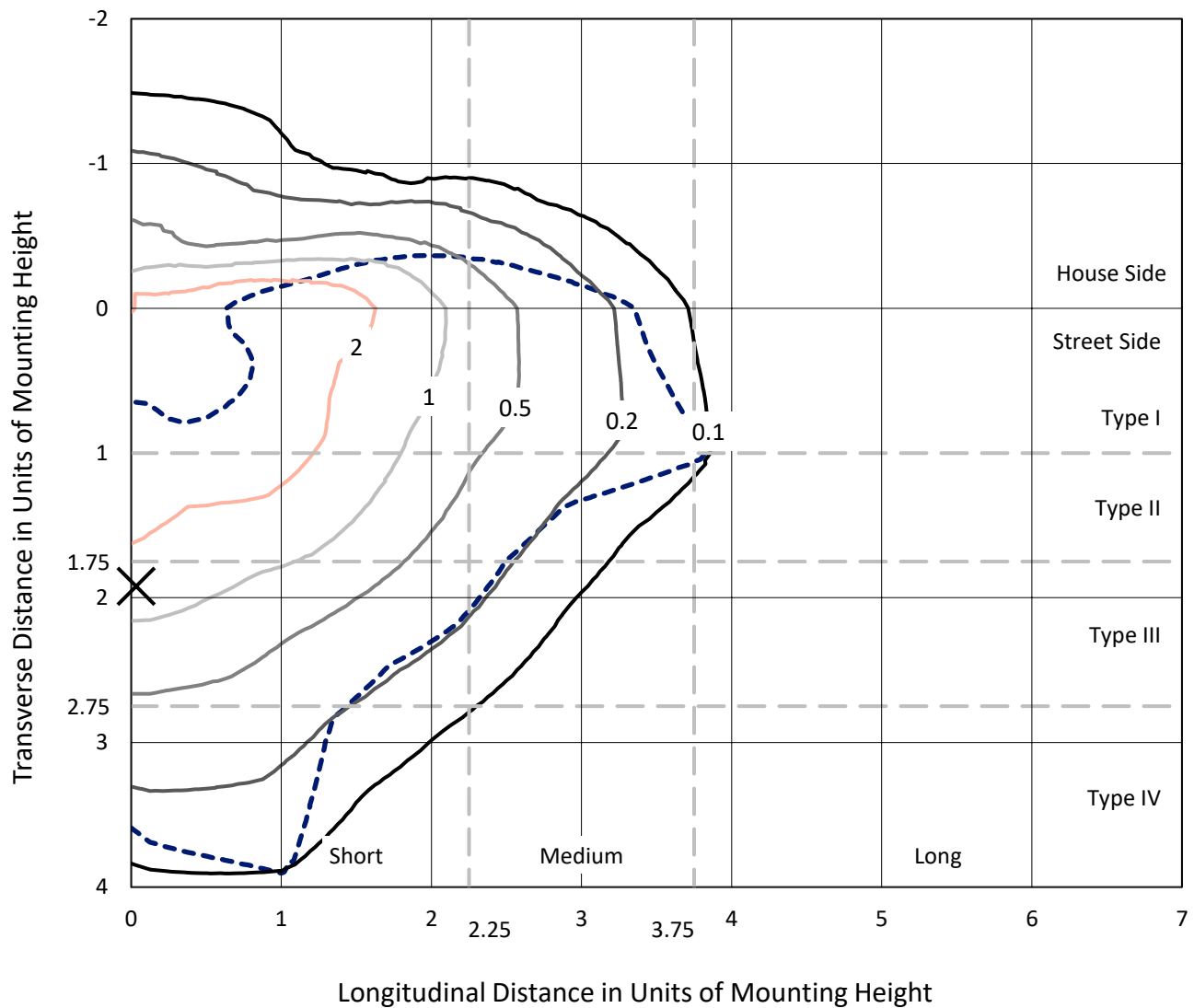


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Iso-Footcandle Lines of Horizontal Illumination

✕ Max cd
- - - 1/2 Max cd

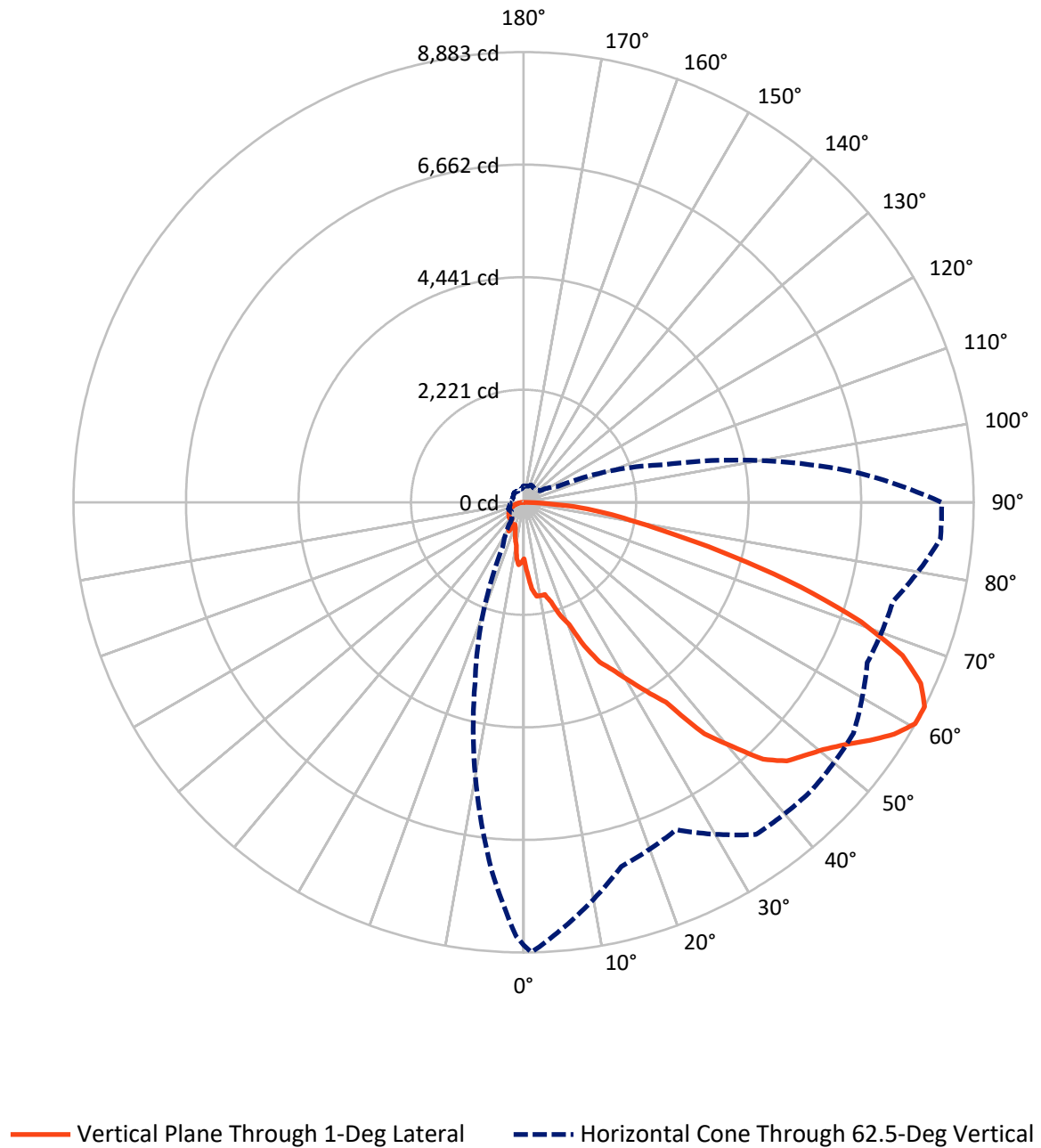


Based on 25 foot mounting height. Maximum calculated value = 4.5 fc
Type IV - Short - N/A

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Luminous Intensity Polar Plot



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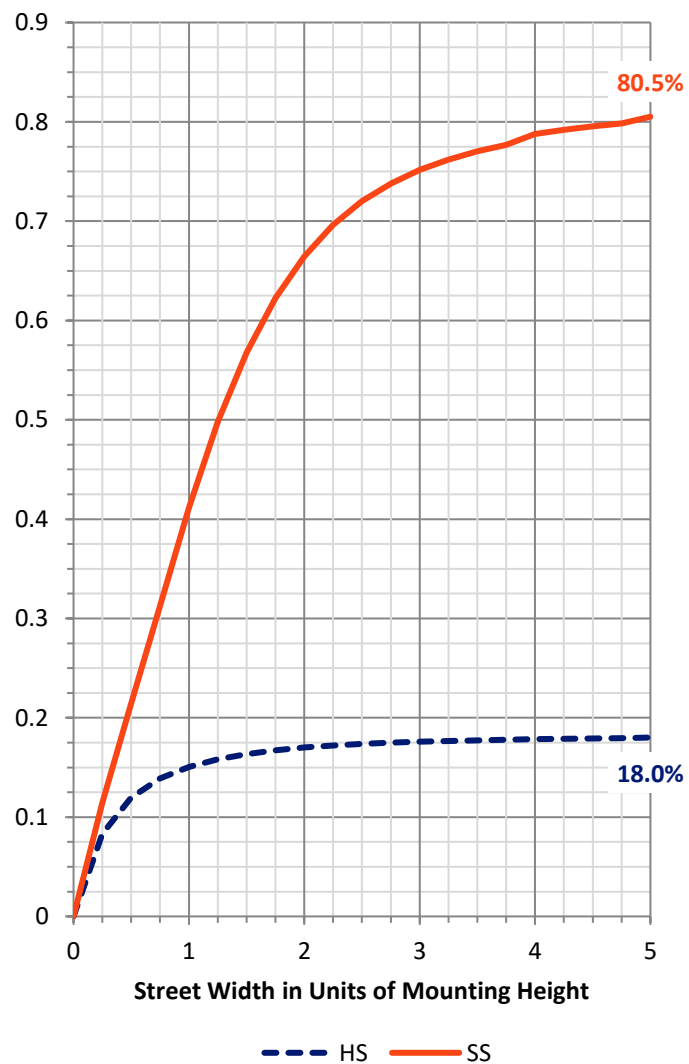
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1924.4	0.0	1924.4
	% Fixture	18.2	0.0	18.2
Street Side	Lumens	8643.6	0.0	8643.6
	% Fixture	81.8	0.0	81.8
Total	Lumens	10568.0	0.0	10568.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	127.7	1.2
10°-20°	371.2	3.5
20°-30°	655.4	6.2
30°-40°	1020.8	9.7
40°-50°	1680.9	15.9
50°-60°	2399.1	22.7
60°-70°	2544.0	24.1
70°-80°	1405.2	13.3
80°-90°	363.4	3.4
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°	10568.0	100.0
0°-180°	10568.0	100.0

Coefficient of Utilization



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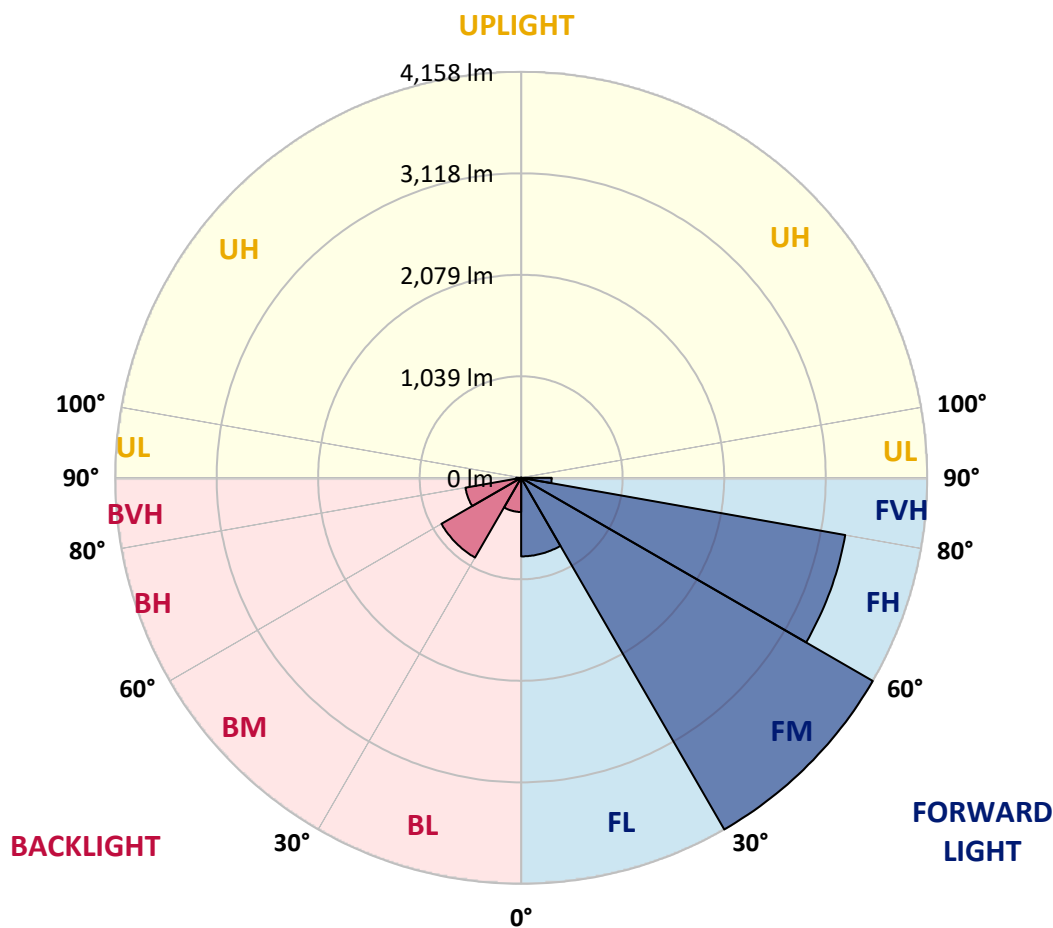
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	804.4	7.6			
FM	(30°-60°)	4157.6	39.3			
FH	(60°-80°)	3369.5	31.9			G2/5000
FVH	(80°-90°)	312.2	3.0			G3/500
BL	(0°-30°)	350.0	3.3	B1/500		
BM	(30°-60°)	943.4	8.9	B1/1000		
BH	(60°-80°)	579.8	5.5	B2/1000		G2/1000
BVH	(80°-90°)	51.3	0.5			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°	1°	5°	15°	25°	35°	45°	55°	65°	75°	85°
0°	1114.4	1114.4	1114.4	1114.4	1114.4	1114.4	1114.4	1114.4	1114.4	1114.4	1114.4
2.5°	1370.3	1382.1	1358.0	1330.8	1218.5	1326.7	1294.4	1354.4	1334.9	1204.6	1443.1
5°	1693.4	1714.9	1691.3	1772.9	1778.0	1799.0	1604.7	1725.7	1683.6	1672.9	1793.4
7.5°	1849.3	1871.3	1931.3	2076.5	2189.8	2087.2	1973.9	1948.8	1915.9	1830.3	1903.1
10°	1859.0	1871.3	1951.8	2259.5	2314.4	2387.2	2313.9	2141.1	2069.8	1883.6	1828.2
12.5°	1829.8	1868.2	1972.4	2347.2	2510.3	2589.8	2607.8	2415.4	2240.6	2028.3	2000.0
15°	2026.2	2040.0	2189.3	2409.8	2522.1	2589.3	2647.8	2529.3	2474.4	2306.2	2080.0
17.5°	2307.7	2346.2	2468.3	2549.8	2625.7	2638.5	2590.3	2544.2	2457.0	2681.6	2441.1
20°	2498.5	2572.9	2722.6	2738.0	2578.5	2606.7	2600.1	2603.1	2553.4	2968.8	2836.5
22.5°	3003.1	3083.7	3104.2	3014.9	2714.4	2585.7	2611.3	2685.7	2881.6	3237.5	3387.3
25°	3460.1	3491.4	3678.5	3448.8	2969.8	2689.3	2647.2	2839.6	3159.0	3689.8	3796.5
27.5°	3698.5	3739.1	3863.7	3363.7	3001.6	2556.0	2457.5	2750.3	3076.0	3477.0	3945.2
30°	4003.7	4068.3	4238.0	3448.8	3097.5	2643.1	2425.2	2705.2	3065.2	3616.5	4260.1
32.5°	4318.0	4443.7	4569.9	3748.8	3084.2	2776.5	2631.9	2654.4	3162.6	3908.8	4586.3
35°	4734.5	4845.2	4954.0	3922.1	3352.9	2887.8	2744.2	2983.1	3412.9	4247.8	5041.1
37.5°	5624.7	5800.1	5513.5	4415.5	3645.2	3389.3	3130.3	3271.9	3677.5	4530.4	5784.2
40°	6191.9	6323.7	6046.8	4751.4	4160.1	3727.3	3684.7	3696.5	4042.1	4772.4	6284.2
42.5°	6755.5	6934.0	6493.5	5212.4	4782.7	4425.2	4205.7	4190.9	4450.4	5207.3	6853.0
45°	7176.1	7281.2	6646.8	5601.2	5450.4	5185.2	5020.6	4759.6	4986.8	5508.3	7204.8
47.5°	7376.1	7461.7	6893.5	5827.3	5883.2	5897.1	6194.0	5748.9	5455.5	5711.9	7389.4
50°	7625.8	7666.3	7038.6	6026.3	6294.5	6902.7	6974.0	6219.6	5911.9	5934.0	7498.6
52.5°	7924.3	7941.2	7250.4	6256.0	6710.4	7564.3	7454.0	7017.6	6346.3	6339.6	7704.3
55°	8299.7	8289.4	7516.1	6565.3	7007.3	7957.6	7874.0	7556.1	6819.6	6675.5	8024.3
57.5°	8633.5	8627.4	7868.4	6849.9	7257.1	8159.7	8184.3	8100.2	7141.7	6916.1	8371.0
60°	8797.1	8875.6	8269.4	7161.2	7273.0	8251.0	8260.2	8126.3	7501.7	7224.8	8463.3
62.5°	8733.5	8882.8	8466.4	7441.2	7126.8	8001.7	8040.2	7947.9	7485.3	7548.9	8257.1
65°	8444.3	8616.6	8295.6	7590.4	7037.1	7584.3	7594.0	7360.7	7250.9	7763.8	7774.0
67.5°	7901.7	8063.3	7752.0	7352.5	6422.7	6459.1	6676.6	6695.5	6535.5	7601.7	7095.6
70°	6952.0	7065.8	6870.9	6764.8	5368.3	5155.0	5390.9	5491.9	5564.7	7016.6	6281.2
72.5°	5503.7	5723.7	5754.5	5823.7	4322.2	3966.8	4141.6	3991.9	4466.3	5971.9	5131.9
75°	4071.9	4257.5	4457.0	4843.2	3406.7	2969.8	2948.3	2871.9	3314.9	4802.7	3806.2
77.5°	2877.5	2996.0	3149.3	3868.8	2570.8	2287.2	2300.6	2223.1	2393.9	3629.8	2629.3
80°	2062.6	2124.7	2195.9	2548.8	1896.5	1973.4	1975.4	1902.1	1780.0	2465.2	1754.9
82.5°	1469.8	1518.0	1599.5	1681.1	1413.9	1617.5	1615.9	1611.3	1411.3	1666.2	1098.0
85°	818.5	883.1	1024.6	1317.0	1021.0	1156.4	1016.9	1120.0	1035.9	1109.3	555.9
87.5°	57.4	51.3	229.2	763.1	476.4	348.2	182.6	361.5	463.6	579.5	77.4
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°	1114.4	1114.4	1114.4	1114.4	1114.4	1114.4	1114.4	1114.4	1114.4	1114.4	1114.4
2.5°	1492.3	1510.3	1440.0	1334.4	1363.1	1331.8	1292.3	1230.8	1104.1	1182.6	1183.1
5°	1792.3	1724.1	1669.3	1617.5	1530.3	1398.5	1381.1	1275.4	1215.9	1247.2	1242.6
7.5°	1886.2	1789.3	1706.7	1521.6	1360.0	1155.4	1093.9	1031.3	1005.2	1081.1	1111.3
10°	1783.1	1682.1	1601.1	1375.9	1266.2	1138.5	969.3	882.6	831.3	851.3	863.1
12.5°	1866.2	1763.1	1508.2	1382.6	1201.6	1123.6	975.4	848.2	772.3	790.8	768.7
15°	1946.2	1807.2	1552.3	1302.1	1155.4	1042.6	922.6	791.3	702.1	670.3	653.3
17.5°	2238.5	2007.7	1547.2	1257.0	1088.7	959.0	814.4	670.8	611.3	578.5	550.3
20°	2594.9	2273.4	1574.9	1210.3	1018.0	854.4	696.9	563.6	522.1	500.5	492.8
22.5°	3019.0	2613.9	1733.4	1203.6	951.3	778.0	632.3	549.2	502.6	479.0	469.2
25°	3356.0	2966.2	1850.3	1248.7	947.7	714.9	593.3	610.3	588.7	595.9	539.0
27.5°	3683.2	3062.1	1784.7	1228.7	852.3	603.1	584.1	619.5	638.0	643.6	641.6
30°	3959.6	3467.3	1799.0	1115.9	720.0	491.3	447.2	464.6	515.4	595.9	611.3
32.5°	4364.2	3661.1	1921.6	1047.7	643.6	439.5	390.3	383.6	395.4	424.6	449.8
35°	4837.5	4107.3	1955.9	1029.8	590.8	416.4	382.1	366.7	372.8	394.9	400.0
37.5°	5720.1	4432.4	2083.1	1007.7	571.3	402.6	375.9	370.3	383.6	401.5	411.8
40°	6206.8	5017.0	2089.3	988.7	546.2	396.9	380.0	377.4	385.7	410.3	416.4
42.5°	6855.5	5350.4	2185.7	966.7	537.4	404.6	388.2	387.2	394.4	408.7	420.0
45°	7250.9	5573.5	2190.8	953.9	535.4	438.5	399.0	395.4	393.9	402.6	412.8
47.5°	7505.8	5895.0	2253.4	939.5	547.7	447.2	411.8	396.4	391.3	394.9	402.6
50°	7747.4	6151.9	2371.9	937.5	560.5	438.5	434.4	395.9	385.7	384.1	389.8
52.5°	8043.8	6574.5	2518.0	956.9	557.4	425.7	451.3	393.9	375.4	371.8	377.4
55°	8475.1	7027.3	2673.4	940.5	525.7	401.0	434.9	392.3	364.6	358.0	363.1
57.5°	8754.6	7286.8	2847.2	926.7	477.4	382.6	420.0	393.3	365.6	350.8	353.9
60°	8661.7	7147.3	2915.5	842.1	431.8	368.2	384.6	385.1	356.4	342.6	345.1
62.5°	8251.5	6642.2	2851.9	743.6	398.0	347.7	348.2	369.8	329.8	320.0	324.1
65°	7678.1	6014.0	2594.4	679.5	382.1	326.2	318.0	324.6	293.9	286.7	294.9
67.5°	6974.5	5239.6	2211.3	611.8	376.4	296.9	287.2	284.6	265.1	256.9	265.1
70°	6091.9	4387.3	1767.7	564.1	354.9	265.1	257.4	254.9	238.5	232.3	239.5
72.5°	4896.5	3425.7	1364.1	527.7	331.3	235.9	229.2	226.2	212.3	203.6	212.3
75°	3482.6	2618.0	1013.4	471.8	298.0	206.2	198.5	194.4	181.5	173.3	181.0
77.5°	2474.9	1965.2	707.7	390.3	245.6	174.4	169.7	163.1	151.8	142.1	149.7
80°	1829.8	1404.1	456.4	301.0	187.7	139.5	136.9	132.3	121.5	109.7	115.4
82.5°	1204.6	1012.3	261.5	204.1	136.4	100.5	102.6	99.5	89.2	76.9	80.0
85°	539.5	599.5	139.0	112.3	88.7	60.5	66.2	64.1	56.4	44.6	45.6
87.5°	51.8	101.0	42.6	41.0	32.8	19.0	23.6	20.0	16.9	10.8	8.2
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):

	185°	195°	205°	215°	225°	235°	245°	255°	265°	270°	275°
0°	1114.4	1114.4	1114.4	1114.4	1114.4	1114.4	1114.4	1114.4	1114.4	1114.4	1114.4
2.5°	1201.1	1128.7	1056.4	1100.5	1101.6	1113.4	1114.9	1071.3	1106.2	1132.8	1160.5
5°	1220.0	1172.8	1175.4	1132.8	1109.8	1139.5	1133.4	1121.6	1142.6	1171.8	1207.2
7.5°	1082.6	1051.8	1046.7	1005.7	906.2	884.1	902.6	910.3	938.5	983.6	1021.6
10°	845.1	906.2	837.5	821.6	795.4	744.1	714.4	710.8	770.8	807.2	839.0
12.5°	761.6	746.2	738.0	694.4	694.4	640.0	622.6	638.5	730.8	756.9	798.0
15°	648.7	637.5	599.5	578.0	567.7	545.7	564.1	579.5	665.7	667.7	710.8
17.5°	538.5	531.8	495.9	491.8	481.5	471.8	488.7	525.7	572.3	564.1	584.1
20°	481.5	458.5	425.7	437.4	426.7	419.0	411.8	464.1	496.9	507.7	519.5
22.5°	467.2	425.1	405.7	394.9	395.4	383.1	384.6	428.2	478.0	484.6	477.4
25°	533.9	459.0	395.9	364.6	352.8	348.7	360.5	399.0	459.0	473.3	479.0
27.5°	624.6	498.5	407.7	354.4	330.8	332.8	349.8	376.4	447.2	472.8	479.5
30°	599.5	468.7	408.2	346.7	317.4	328.2	334.4	360.0	438.0	476.4	509.8
32.5°	462.6	421.5	410.8	352.8	341.0	324.1	332.8	357.4	410.8	434.9	436.4
35°	391.8	360.5	353.3	339.0	322.6	315.4	325.1	346.7	381.5	396.4	394.4
37.5°	388.7	354.4	326.2	320.0	313.3	311.3	316.9	336.9	372.3	398.5	392.8
40°	393.9	351.3	322.6	311.8	314.4	305.1	310.8	335.4	373.9	398.5	393.3
42.5°	387.7	347.7	318.0	309.8	312.3	299.5	306.2	331.8	369.8	399.0	389.2
45°	375.4	339.5	315.4	301.5	313.3	294.4	302.6	322.6	357.4	389.2	378.0
47.5°	363.1	329.8	304.6	295.9	307.7	289.2	292.8	310.3	345.1	376.4	366.7
50°	349.8	317.4	295.9	293.3	301.5	288.2	282.6	296.9	330.3	361.5	353.3
52.5°	335.4	307.2	289.8	288.7	296.4	281.5	273.3	284.6	314.4	345.6	339.0
55°	321.5	295.9	282.1	284.6	293.3	275.9	265.6	272.8	297.4	328.2	319.0
57.5°	307.7	283.1	271.8	279.0	285.6	268.7	255.9	260.0	280.0	310.3	299.5
60°	295.4	271.8	260.5	269.2	275.4	258.0	243.1	245.6	263.6	290.8	281.0
62.5°	279.5	259.5	244.6	255.9	260.5	243.6	227.7	230.8	245.1	270.8	263.6
65°	256.9	244.1	230.3	238.0	244.1	226.7	211.8	215.4	226.2	250.3	245.1
67.5°	237.4	225.1	215.9	222.1	223.1	209.7	196.4	198.5	207.2	229.7	224.1
70°	215.9	204.1	196.9	201.5	201.0	189.7	179.5	180.0	187.2	207.7	200.0
72.5°	192.3	181.0	177.4	180.0	178.0	167.7	158.0	161.5	166.2	181.5	175.4
75°	167.2	156.9	154.9	157.4	154.4	144.6	135.9	139.5	143.6	156.4	148.7
77.5°	141.0	131.8	132.3	132.8	128.7	122.1	113.3	116.9	119.5	128.2	120.5
80°	112.3	105.1	107.2	107.2	102.6	98.0	89.7	90.8	92.3	95.4	89.7
82.5°	82.1	82.1	82.1	82.6	72.8	74.4	67.2	66.7	65.1	64.6	61.0
85°	48.7	50.8	51.8	53.3	39.5	46.2	40.0	38.5	35.4	32.3	31.3
87.5°	10.8	13.8	13.8	13.3	0.0	5.1	2.6	4.1	1.0	0.0	0.0
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):

	285°	295°	305°	315°	325°	335°	345°	355°	359°	360°
0°	1114.4	1114.4	1114.4	1114.4	1114.4	1114.4	1114.4	1114.4	1114.4	1114.4
2.5°	1128.7	1098.0	1155.4	1206.7	1198.5	1228.2	1159.0	1261.6	1370.3	1370.3
5°	1198.0	1171.8	1186.7	1216.4	1239.0	1342.6	1428.8	1514.4	1691.3	1693.4
7.5°	1010.3	1066.7	1080.0	1071.3	1168.2	1301.6	1443.6	1687.7	1837.5	1849.3
10°	944.6	970.3	1010.8	1033.4	1072.8	1204.1	1380.5	1670.3	1829.3	1859.0
12.5°	855.9	950.8	1012.3	1138.5	1169.8	1195.9	1476.4	1727.2	1837.0	1829.8
15°	759.0	830.8	919.5	1059.0	1138.5	1338.5	1533.4	1909.8	1971.8	2026.2
17.5°	605.1	658.0	775.9	934.9	1131.8	1315.9	1673.9	2135.4	2251.3	2307.7
20°	498.0	498.5	616.4	827.2	1041.6	1221.6	1727.2	2322.6	2469.8	2498.5
22.5°	470.8	447.2	509.2	680.5	942.1	1277.5	1834.9	2623.7	2930.8	3003.1
25°	455.9	427.2	466.2	600.5	870.8	1306.7	2051.8	3037.5	3431.9	3460.1
27.5°	462.1	475.4	487.7	535.4	780.5	1251.8	2001.6	3222.6	3645.2	3698.5
30°	503.6	525.1	496.9	513.3	706.2	1172.3	2091.3	3523.2	3913.9	4003.7
32.5°	419.0	410.8	408.2	444.1	631.8	1100.5	2279.5	3946.2	4205.2	4318.0
35°	378.0	365.1	370.3	411.3	595.4	1090.3	2385.2	4296.5	4665.2	4734.5
37.5°	376.4	361.5	368.2	399.0	608.2	1108.7	2554.4	4858.6	5476.5	5624.7
40°	372.8	364.6	368.2	391.3	594.9	1119.0	2651.9	5330.9	6041.7	6191.9
42.5°	372.3	368.2	371.8	397.4	581.0	1123.6	2786.7	5757.6	6637.1	6755.5
45°	370.8	374.9	374.9	402.6	574.9	1154.4	2866.2	5966.8	7029.9	7176.1
47.5°	363.6	375.9	395.9	401.0	549.8	1140.0	2978.5	6284.2	7238.6	7376.1
50°	354.4	374.4	422.6	390.8	545.7	1105.2	3109.8	6536.0	7506.3	7625.8
52.5°	342.1	371.8	416.4	370.8	538.5	1099.0	3293.9	6863.2	7818.6	7924.3
55°	324.6	362.6	397.4	350.8	521.0	1079.5	3575.5	7268.9	8227.4	8299.7
57.5°	308.7	348.7	369.8	339.5	479.5	1083.6	3771.4	7599.7	8570.5	8633.5
60°	294.4	347.2	330.3	327.7	436.9	1028.7	3835.0	7596.1	8698.2	8797.1
62.5°	279.0	327.7	302.6	311.8	399.5	972.3	3700.1	7270.4	8560.2	8733.5
65°	259.0	281.0	279.5	300.5	400.5	880.5	3390.8	6696.1	8216.1	8444.3
67.5°	235.4	248.7	257.4	282.1	413.3	809.2	2893.4	6005.3	7630.4	7901.7
70°	211.3	224.6	234.4	258.0	425.1	776.4	2303.1	5035.0	6676.6	6952.0
72.5°	186.7	200.5	208.2	228.7	409.2	706.2	1704.7	3917.5	5359.1	5503.7
75°	161.0	174.4	180.5	199.5	355.4	584.1	1177.0	2967.2	3925.2	4071.9
77.5°	134.9	149.2	151.3	166.7	271.3	446.7	754.4	2276.0	2779.6	2877.5
80°	107.7	122.1	122.1	130.3	190.8	307.2	451.8	1717.0	2024.1	2062.6
82.5°	77.4	92.8	91.8	92.3	131.8	190.3	261.5	1286.7	1462.6	1469.8
85°	45.6	56.4	55.9	51.3	78.0	102.6	141.5	799.0	816.4	818.5
87.5°	8.7	13.3	11.8	5.1	21.5	30.3	41.0	148.2	59.0	57.4
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)