

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: P596684

Luminaire Tested: **MSA-SA3B-827-U-SLL**

Issue Date: 5/27/2021

**Test Information**

Test Method: LM-79-08  
Report Number: P596684  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-24)  
Test Lab: INNOVATIONS CENTER  
Issue Date: 5/27/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: INVUE  
Catalog Number: MSA-SA3B-827-U-SLL  
Description: MESA POST TOP DECORATIVE LUMINAIRE. (3) 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: 9257 lumens  
Efficiency: N/A  
Efficacy: 73.5 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
IES Classification: Type IV - Short  
BUG Rating: B2 - U0 - G3

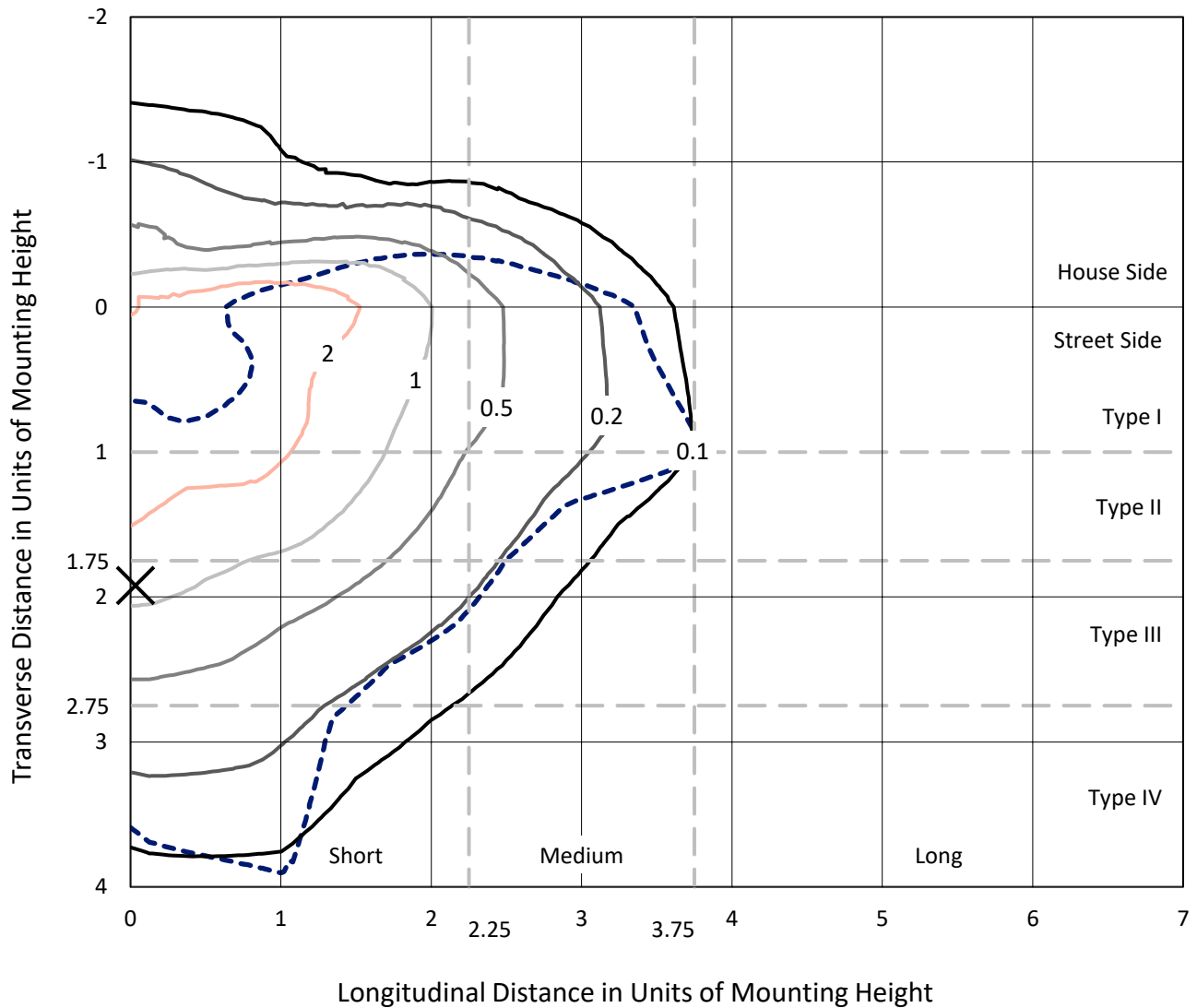
Input Watts (W): 126  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT



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### Iso-Footcandle Lines of Horizontal Illumination

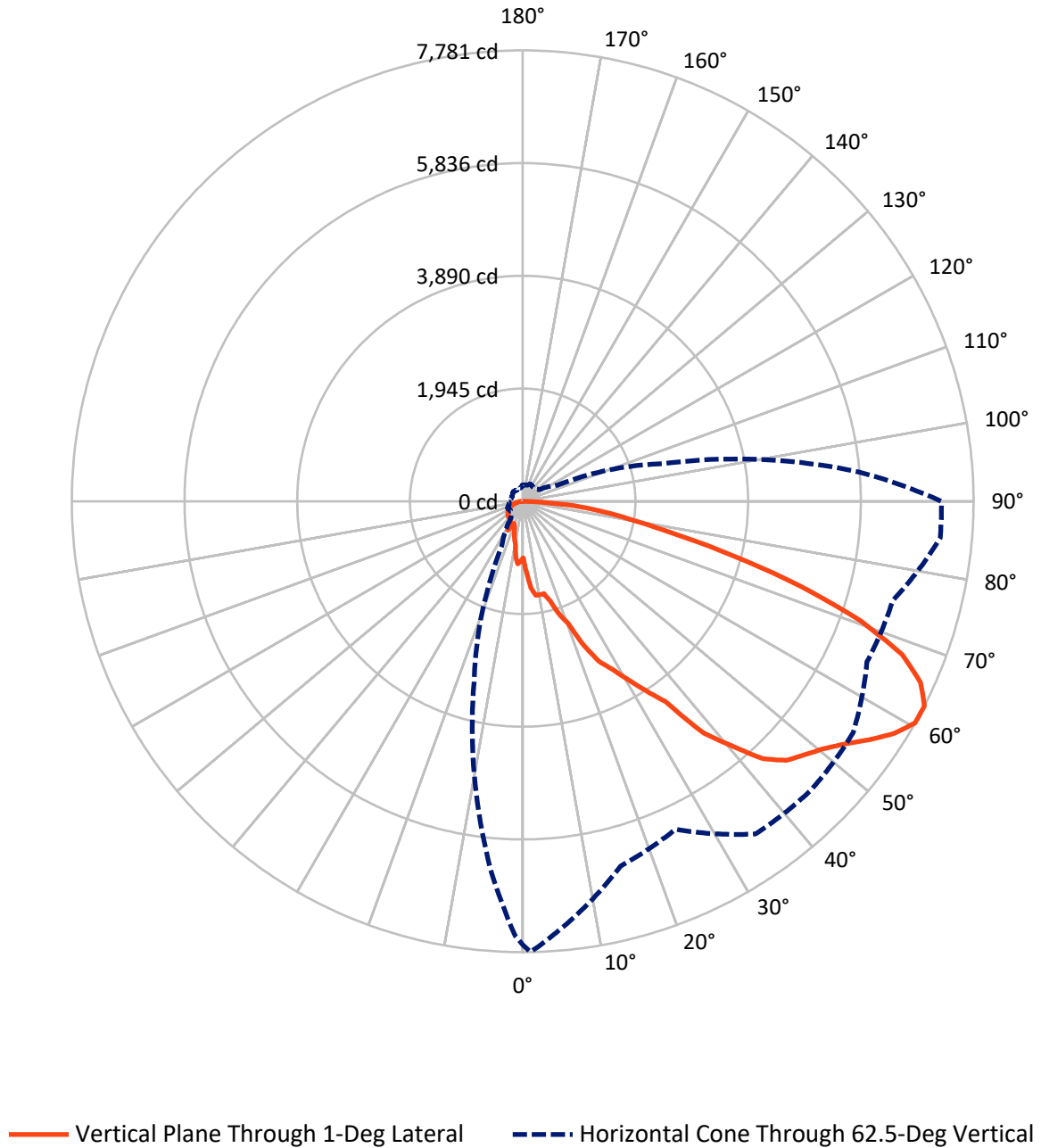
✕ Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 3.9 fc  
 Type IV - Short - N/A

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### Luminous Intensity Polar Plot



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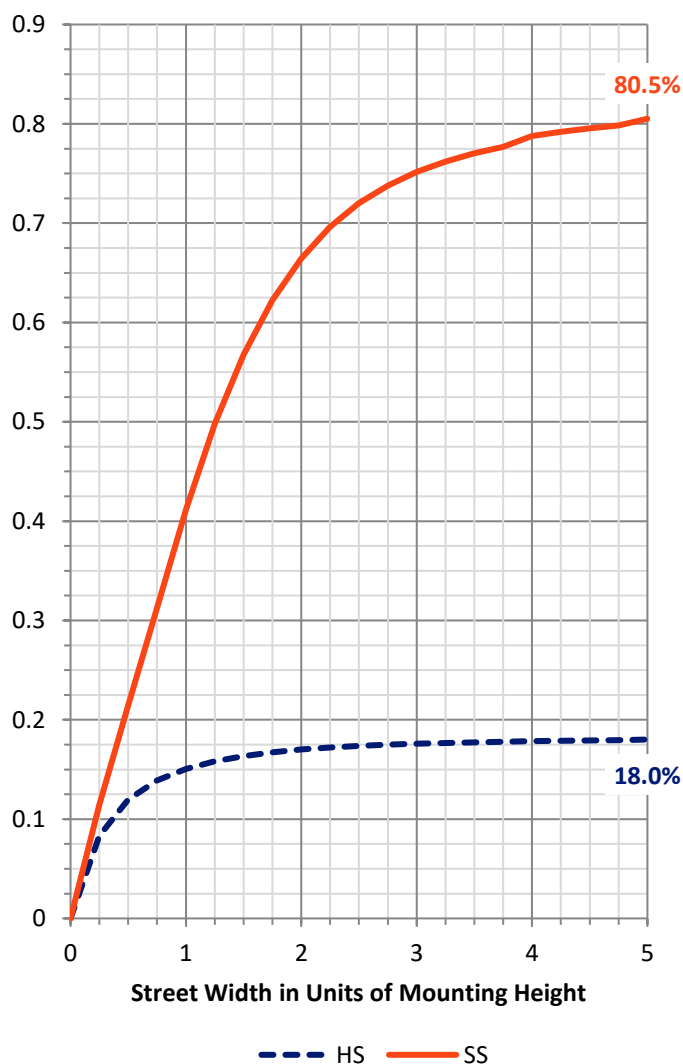
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	1685.6	0.0	1685.6
	% Fixture	18.2	0.0	18.2
<b>Street Side</b>	Lumens	7571.4	0.0	7571.4
	% Fixture	81.8	0.0	81.8
<b>Total</b>	Lumens	9257.0	0.0	9257.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	111.9	1.2
10°-20°	325.2	3.5
20°-30°	574.1	6.2
30°-40°	894.2	9.7
40°-50°	1472.4	15.9
50°-60°	2101.5	22.7
60°-70°	2228.4	24.1
70°-80°	1230.9	13.3
80°-90°	318.4	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°	9257.0	100.0
0°-180°	9257.0	100.0

**Coefficient of Utilization**



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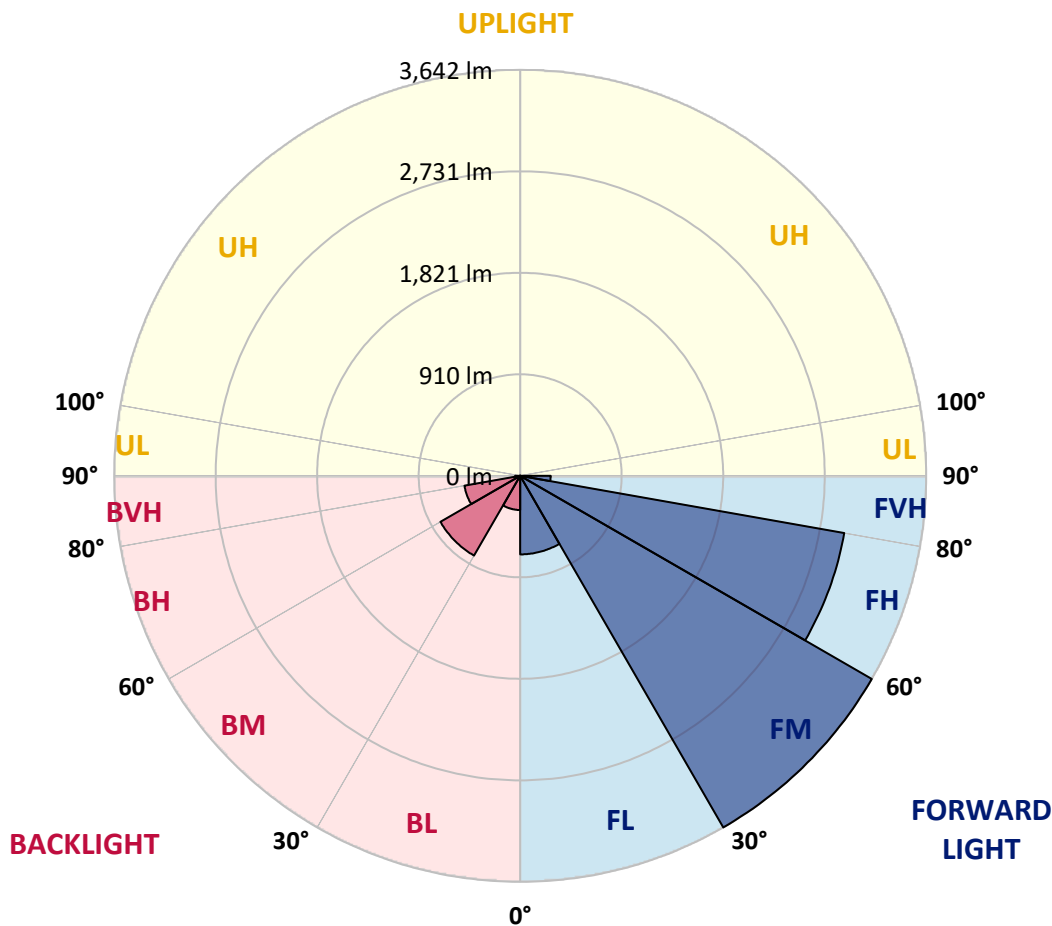
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	704.6	7.6			
FM (30°-60°)	3641.8	39.3			
FH (60°-80°)	2951.5	31.9			G2/5000
FVH (80°-90°)	273.5	3.0			G3/500
BL (0°-30°)	306.6	3.3	B1/500		
BM (30°-60°)	826.3	8.9	B1/1000		
BH (60°-80°)	507.8	5.5	B2/1000		G2/1000
BVH (80°-90°)	44.9	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°	976.1	976.1	976.1	976.1	976.1	976.1	976.1	976.1	976.1	976.1	976.1
2.5°	1200.3	1210.6	1189.5	1165.7	1067.3	1162.1	1133.8	1186.4	1169.3	1055.2	1264.1
5°	1483.3	1502.2	1481.5	1552.9	1557.4	1575.8	1405.6	1511.6	1474.8	1465.3	1570.9
7.5°	1619.9	1639.2	1691.7	1818.9	1918.1	1828.3	1729.0	1707.0	1678.3	1603.2	1667.0
10°	1628.4	1639.2	1709.7	1979.2	2027.3	2091.1	2026.9	1875.5	1813.0	1650.0	1601.4
12.5°	1602.8	1636.5	1727.7	2056.1	2198.9	2268.5	2284.3	2115.8	1962.6	1776.6	1751.9
15°	1774.8	1787.0	1917.7	2110.9	2209.2	2268.1	2319.3	2215.5	2167.5	2020.1	1822.0
17.5°	2021.5	2055.2	2162.1	2233.5	2300.0	2311.2	2269.0	2228.5	2152.2	2348.9	2138.3
20°	2188.6	2253.7	2384.9	2398.4	2258.6	2283.4	2277.5	2280.2	2236.6	2600.5	2484.6
22.5°	2630.6	2701.1	2719.1	2640.9	2377.7	2264.9	2287.4	2352.5	2524.1	2835.9	2967.1
25°	3030.8	3058.2	3222.2	3021.0	2601.4	2355.7	2318.8	2487.3	2767.2	3232.1	3325.5
27.5°	3239.7	3275.2	3384.4	2946.4	2629.2	2238.9	2152.6	2409.1	2694.4	3045.7	3455.8
30°	3507.0	3563.6	3712.3	3021.0	2713.3	2315.2	2124.3	2369.6	2685.0	3167.9	3731.6
32.5°	3782.4	3892.4	4002.9	3283.8	2701.6	2432.0	2305.4	2325.1	2770.3	3423.9	4017.3
35°	4147.1	4244.2	4339.4	3435.6	2937.0	2529.5	2403.7	2613.1	2989.5	3720.8	4415.8
37.5°	4927.0	5080.6	4829.5	3867.7	3193.0	2968.9	2742.0	2866.0	3221.3	3968.4	5066.7
40°	5423.8	5539.3	5296.7	4162.0	3644.0	3264.9	3227.6	3237.9	3540.7	4180.4	5504.7
42.5°	5917.5	6073.8	5687.9	4565.8	4189.4	3876.3	3684.0	3671.0	3898.3	4561.3	6002.8
45°	6285.8	6377.9	5822.3	4906.3	4774.2	4542.0	4397.8	4169.2	4368.2	4825.0	6311.0
47.5°	6461.0	6536.1	6038.3	5104.4	5153.4	5165.5	5425.6	5035.7	4778.7	5003.3	6472.7
50°	6679.8	6715.3	6165.5	5278.7	5513.6	6046.4	6108.9	5448.1	5178.5	5197.9	6568.4
52.5°	6941.2	6956.1	6351.0	5480.0	5878.0	6625.9	6529.3	6147.0	5559.0	5553.2	6748.5
55°	7270.1	7261.1	6583.7	5750.8	6138.1	6970.4	6897.2	6618.7	5973.6	5847.4	7028.8
57.5°	7562.5	7557.1	6892.3	6000.1	6356.8	7147.4	7169.0	7095.3	6255.7	6058.1	7332.5
60°	7705.8	7774.5	7243.6	6272.8	6370.7	7227.4	7235.5	7118.2	6571.1	6328.5	7413.4
62.5°	7650.1	7780.8	7416.1	6518.1	6242.7	7009.1	7042.8	6961.9	6556.7	6612.4	7232.8
65°	7396.8	7547.7	7266.5	6648.8	6164.1	6643.4	6652.0	6447.6	6351.4	6800.6	6809.6
67.5°	6921.5	7063.0	6790.3	6440.4	5626.0	5657.8	5848.3	5864.9	5724.8	6658.7	6215.3
70°	6089.5	6189.3	6018.6	5925.6	4702.4	4515.5	4722.1	4810.6	4874.4	6146.1	5502.0
72.5°	4821.0	5013.7	5040.6	5101.3	3786.0	3474.7	3627.8	3496.7	3912.2	5231.1	4495.3
75°	3566.8	3729.4	3904.1	4242.4	2984.1	2601.4	2582.5	2515.6	2903.7	4206.9	3334.1
77.5°	2520.5	2624.3	2758.6	3388.9	2251.9	2003.5	2015.2	1947.3	2096.9	3179.5	2303.1
80°	1806.7	1861.1	1923.5	2232.6	1661.2	1728.6	1730.4	1666.1	1559.2	2159.4	1537.2
82.5°	1287.4	1329.7	1401.1	1472.5	1238.5	1416.8	1415.5	1411.4	1236.2	1459.5	961.8
85°	716.9	773.5	897.5	1153.6	894.4	1013.0	890.8	981.1	907.4	971.6	486.9
87.5°	50.3	44.9	200.8	668.4	417.3	305.0	159.9	316.7	406.1	507.6	67.8
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°	976.1	976.1	976.1	976.1	976.1	976.1	976.1	976.1	976.1	976.1	976.1
2.5°	1307.2	1322.9	1261.4	1168.9	1194.0	1166.6	1132.0	1078.1	967.2	1035.9	1036.3
5°	1570.0	1510.3	1462.2	1416.8	1340.5	1225.0	1209.7	1117.2	1065.1	1092.5	1088.4
7.5°	1652.2	1567.3	1495.0	1332.8	1191.3	1012.1	958.2	903.4	880.5	946.9	973.4
10°	1561.9	1473.4	1402.4	1205.2	1109.1	997.3	849.0	773.1	728.2	745.7	756.0
12.5°	1634.7	1544.4	1321.1	1211.1	1052.5	984.2	854.4	743.0	676.5	692.7	673.4
15°	1704.8	1583.0	1359.8	1140.6	1012.1	913.3	808.1	693.1	615.0	587.1	572.3
17.5°	1960.8	1758.7	1355.3	1101.0	953.7	840.0	713.4	587.6	535.5	506.7	482.0
20°	2273.0	1991.4	1379.5	1060.1	891.7	748.4	610.5	493.7	457.3	438.4	431.7
22.5°	2644.5	2289.6	1518.3	1054.3	833.3	681.5	553.9	481.1	440.2	419.6	411.0
25°	2939.7	2598.3	1620.8	1093.8	830.1	626.2	519.7	534.6	515.7	522.0	472.1
27.5°	3226.3	2682.3	1563.3	1076.3	746.6	528.3	511.7	542.7	558.8	563.8	562.0
30°	3468.4	3037.1	1575.8	977.5	630.7	430.3	391.7	407.0	451.5	522.0	535.5
32.5°	3822.8	3206.9	1683.2	917.7	563.8	385.0	341.9	336.0	346.3	371.9	394.0
35°	4237.4	3597.8	1713.3	902.0	517.5	364.8	334.7	321.2	326.6	345.9	350.4
37.5°	5010.5	3882.6	1824.7	882.7	500.4	352.6	329.3	324.3	336.0	351.7	360.7
40°	5436.8	4394.7	1830.1	866.1	478.4	347.7	332.9	330.6	337.8	359.4	364.8
42.5°	6005.1	4686.6	1914.5	846.8	470.8	354.4	340.1	339.2	345.4	358.0	367.9
45°	6351.4	4882.1	1919.0	835.5	469.0	384.1	349.5	346.3	345.0	352.6	361.6
47.5°	6574.7	5163.7	1973.8	823.0	479.8	391.7	360.7	347.2	342.8	345.9	352.6
50°	6786.3	5388.8	2077.6	821.2	491.0	384.1	380.5	346.8	337.8	336.5	341.4
52.5°	7045.9	5758.9	2205.6	838.2	488.3	372.8	395.3	345.0	328.8	325.7	330.6
55°	7423.7	6155.6	2341.8	823.9	460.4	351.3	380.9	343.6	319.4	313.6	318.0
57.5°	7668.5	6382.9	2494.0	811.7	418.2	335.1	367.9	344.5	320.3	307.3	310.0
60°	7587.2	6260.7	2553.8	737.6	378.2	322.5	336.9	337.4	312.2	300.1	302.3
62.5°	7227.8	5818.2	2498.1	651.4	348.6	304.6	305.0	323.9	288.8	280.3	283.9
65°	6725.6	5267.9	2272.6	595.2	334.7	285.7	278.5	284.4	257.4	251.1	258.3
67.5°	6109.3	4589.6	1937.0	535.9	329.7	260.1	251.6	249.3	232.2	225.1	232.2
70°	5336.2	3843.0	1548.4	494.1	310.9	232.2	225.5	223.3	208.9	203.5	209.8
72.5°	4289.1	3000.7	1194.9	462.2	290.2	206.6	200.8	198.1	186.0	178.3	186.0
75°	3050.6	2293.2	887.6	413.3	261.0	180.6	173.8	170.3	159.0	151.8	158.6
77.5°	2167.9	1721.4	619.9	341.9	215.2	152.7	148.7	142.8	133.0	124.4	131.2
80°	1602.8	1229.9	399.8	263.7	164.4	122.2	119.9	115.9	106.5	96.1	101.1
82.5°	1055.2	886.7	229.1	178.8	119.5	88.0	89.8	87.1	78.2	67.4	70.1
85°	472.6	525.1	121.7	98.4	77.7	53.0	57.9	56.2	49.4	39.1	40.0
87.5°	45.4	88.5	37.3	35.9	28.7	16.6	20.7	17.5	14.8	9.4	7.2
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°	976.1	976.1	976.1	976.1	976.1	976.1	976.1	976.1	976.1	976.1	976.1
2.5°	1052.1	988.7	925.4	964.0	964.9	975.2	976.6	938.4	969.0	992.3	1016.6
5°	1068.7	1027.4	1029.6	992.3	972.1	998.2	992.8	982.4	1000.8	1026.5	1057.4
7.5°	948.3	921.3	916.8	880.9	793.8	774.4	790.6	797.4	822.1	861.6	894.8
10°	740.3	793.8	733.6	719.6	696.7	651.8	625.8	622.6	675.2	707.1	734.9
12.5°	667.1	653.6	646.4	608.2	608.2	560.6	545.3	559.3	640.1	663.0	699.0
15°	568.3	558.4	525.1	506.3	497.3	478.0	494.1	507.6	583.1	584.9	622.6
17.5°	471.7	465.8	434.4	430.8	421.8	413.3	428.1	460.4	501.3	494.1	511.7
20°	421.8	401.6	372.8	383.2	373.7	367.0	360.7	406.5	435.3	444.7	455.1
22.5°	409.2	372.4	355.3	345.9	346.3	335.6	336.9	375.1	418.7	424.5	418.2
25°	467.6	402.0	346.8	319.4	309.1	305.5	315.8	349.5	402.0	414.6	419.6
27.5°	547.1	436.6	357.1	310.4	289.7	291.5	306.4	329.7	391.7	414.2	420.0
30°	525.1	410.6	357.6	303.7	278.1	287.5	292.9	315.3	383.6	417.3	446.5
32.5°	405.2	369.3	359.8	309.1	298.7	283.9	291.5	313.1	359.8	380.9	382.3
35°	343.2	315.8	309.5	296.9	282.6	276.3	284.8	303.7	334.2	347.2	345.4
37.5°	340.5	310.4	285.7	280.3	274.5	272.7	277.6	295.1	326.1	349.0	344.1
40°	345.0	307.7	282.6	273.1	275.4	267.3	272.2	293.8	327.5	349.0	344.5
42.5°	339.6	304.6	278.5	271.3	273.6	262.3	268.2	290.6	323.9	349.5	341.0
45°	328.8	297.4	276.3	264.1	274.5	257.8	265.0	282.6	313.1	341.0	331.1
47.5°	318.0	288.8	266.8	259.2	269.5	253.4	256.5	271.8	302.3	329.7	321.2
50°	306.4	278.1	259.2	257.0	264.1	252.5	247.5	260.1	289.3	316.7	309.5
52.5°	293.8	269.1	253.8	252.9	259.6	246.6	239.4	249.3	275.4	302.8	296.9
55°	281.7	259.2	247.1	249.3	257.0	241.7	232.7	239.0	260.5	287.5	279.4
57.5°	269.5	248.0	238.1	244.4	250.2	235.4	224.2	227.8	245.3	271.8	262.3
60°	258.7	238.1	228.2	235.8	241.2	226.0	212.9	215.2	230.9	254.7	246.2
62.5°	244.8	227.3	214.3	224.2	228.2	213.4	199.5	202.1	214.7	237.2	230.9
65°	225.1	213.8	201.7	208.4	213.8	198.6	185.5	188.7	198.1	219.2	214.7
67.5°	208.0	197.2	189.1	194.5	195.4	183.7	172.0	173.8	181.5	201.2	196.3
70°	189.1	178.8	172.5	176.5	176.1	166.2	157.2	157.7	164.0	181.9	175.2
72.5°	168.5	158.6	155.4	157.7	155.9	146.9	138.4	141.5	145.5	159.0	153.6
75°	146.4	137.5	135.7	137.9	135.2	126.7	119.0	122.2	125.8	137.0	130.3
77.5°	123.5	115.4	115.9	116.3	112.8	106.9	99.3	102.4	104.7	112.3	105.6
80°	98.4	92.1	93.9	93.9	89.8	85.8	78.6	79.5	80.9	83.6	78.6
82.5°	71.9	71.9	71.9	72.3	63.8	65.1	58.8	58.4	57.1	56.6	53.5
85°	42.7	44.5	45.4	46.7	34.6	40.4	35.0	33.7	31.0	28.3	27.4
87.5°	9.4	12.1	12.1	11.7	0.0	4.5	2.2	3.6	0.9	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°	976.1	976.1	976.1	976.1	976.1	976.1	976.1	976.1	976.1	976.1
2.5°	988.7	961.8	1012.1	1057.0	1049.8	1075.9	1015.2	1105.1	1200.3	1200.3
5°	1049.4	1026.5	1039.5	1065.5	1085.3	1176.0	1251.5	1326.5	1481.5	1483.3
7.5°	885.0	934.4	946.0	938.4	1023.3	1140.1	1264.5	1478.4	1609.5	1619.9
10°	827.5	849.9	885.4	905.2	939.8	1054.8	1209.3	1463.1	1602.3	1628.4
12.5°	749.7	832.8	886.7	997.3	1024.7	1047.6	1293.3	1513.0	1609.1	1602.8
15°	664.8	727.7	805.4	927.6	997.3	1172.4	1343.1	1672.9	1727.2	1774.8
17.5°	530.1	576.3	679.7	818.9	991.4	1152.7	1466.2	1870.5	1972.0	2021.5
20°	436.2	436.6	540.0	724.6	912.4	1070.0	1513.0	2034.5	2163.4	2188.6
22.5°	412.4	391.7	446.1	596.1	825.2	1119.0	1607.3	2298.2	2567.3	2630.6
25°	399.4	374.2	408.3	526.0	762.8	1144.6	1797.3	2660.7	3006.1	3030.8
27.5°	404.7	416.4	427.2	469.0	683.7	1096.5	1753.3	2822.9	3193.0	3239.7
30°	441.1	460.0	435.3	449.7	618.6	1026.9	1831.9	3086.1	3428.4	3507.0
32.5°	367.0	359.8	357.6	389.0	553.4	964.0	1996.8	3456.7	3683.6	3782.4
35°	331.1	319.8	324.3	360.3	521.5	955.0	2089.3	3763.5	4086.5	4147.1
37.5°	329.7	316.7	322.5	349.5	532.8	971.2	2237.5	4255.9	4797.2	4927.0
40°	326.6	319.4	322.5	342.8	521.1	980.2	2322.9	4669.6	5292.2	5423.8
42.5°	326.1	322.5	325.7	348.1	509.0	984.2	2441.0	5043.3	5813.7	5917.5
45°	324.8	328.4	328.4	352.6	503.6	1011.2	2510.7	5226.6	6157.8	6285.8
47.5°	318.5	329.3	346.8	351.3	481.6	998.6	2609.0	5504.7	6340.7	6461.0
50°	310.4	327.9	370.2	342.3	478.0	968.1	2724.0	5725.2	6575.1	6679.8
52.5°	299.6	325.7	364.8	324.8	471.7	962.7	2885.3	6011.8	6848.7	6941.2
55°	284.4	317.6	348.1	307.3	456.4	945.6	3131.9	6367.2	7206.7	7270.1
57.5°	270.4	305.5	323.9	297.4	420.0	949.2	3303.5	6656.9	7507.3	7562.5
60°	257.8	304.1	289.3	287.0	382.7	901.1	3359.2	6653.8	7619.1	7705.8
62.5°	244.4	287.0	265.0	273.1	349.9	851.7	3241.1	6368.5	7498.3	7650.1
65°	226.9	246.2	244.8	263.2	350.8	771.3	2970.2	5865.4	7196.9	7396.8
67.5°	206.2	217.9	225.5	247.1	362.1	708.9	2534.5	5260.3	6683.9	6921.5
70°	185.1	196.8	205.3	226.0	372.4	680.1	2017.4	4410.4	5848.3	6089.5
72.5°	163.5	175.6	182.4	200.3	358.5	618.6	1493.2	3431.5	4694.3	4821.0
75°	141.1	152.7	158.1	174.7	311.3	511.7	1030.9	2599.2	3438.3	3566.8
77.5°	118.1	130.7	132.5	146.0	237.6	391.3	660.8	1993.6	2434.7	2520.5
80°	94.3	106.9	106.9	114.1	167.1	269.1	395.8	1504.0	1773.0	1806.7
82.5°	67.8	81.3	80.4	80.9	115.4	166.7	229.1	1127.1	1281.2	1287.4
85°	40.0	49.4	49.0	44.9	68.3	89.8	124.0	699.9	715.1	716.9
87.5°	7.6	11.7	10.3	4.5	18.9	26.5	35.9	129.8	51.7	50.3
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)