

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: P596486

Luminaire Tested: **MSA-SA1A-827-U-SLL**

Issue Date: 5/27/2021

**Test Information**

Test Method: LM-79-08  
Report Number: P596486  
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-SA1A-827-U-SLL  
Description: MESA POST TOP DECORATIVE LUMINAIRE. (1) LIGHTSQUARES WITH 16 LEDS EACH AND SPILL LIGHT ELIMINATOR LEFT OPTICS.  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

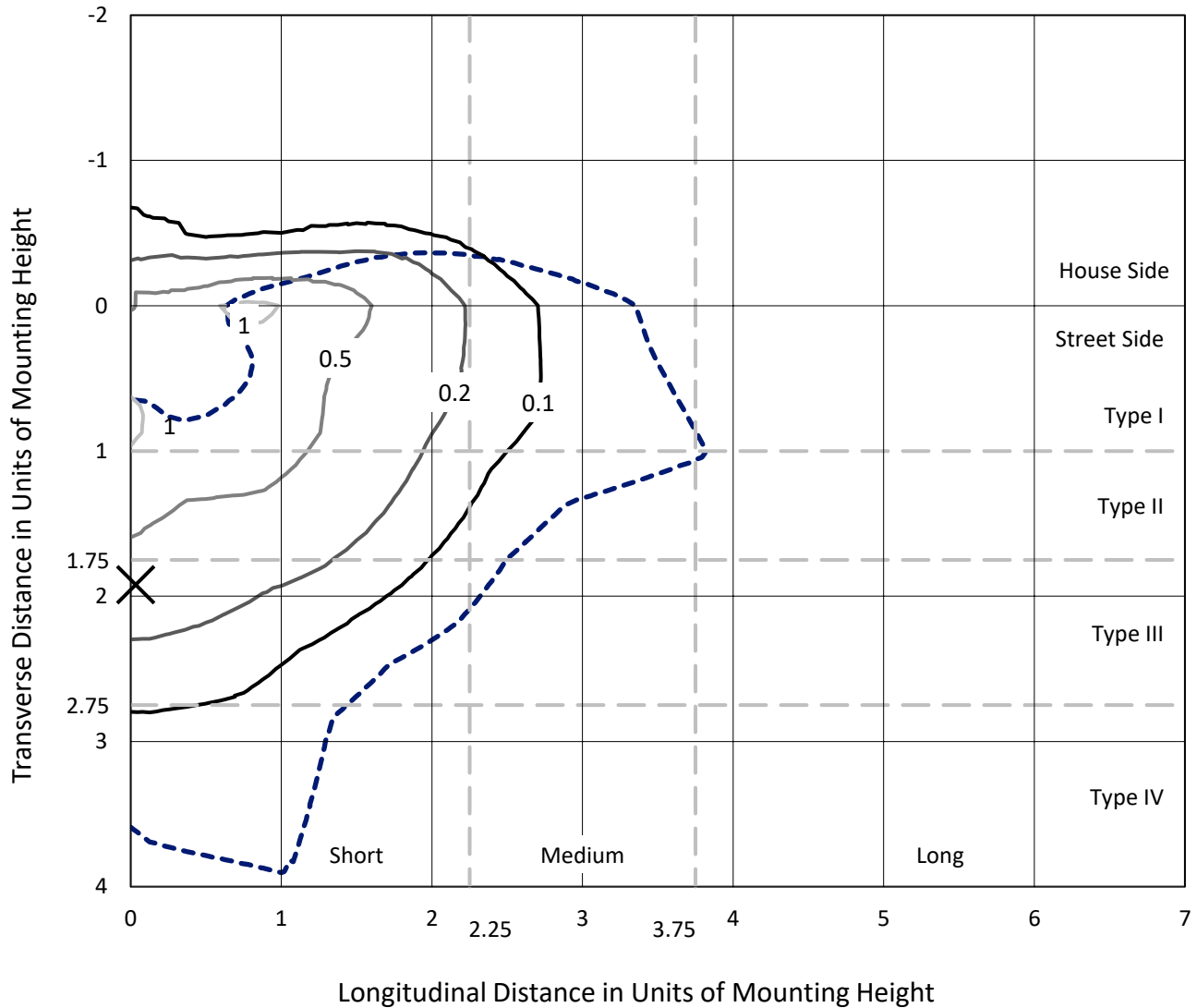
Lumens per Lamp: N/A  
Luminaire Lumens: 2545 lumens  
Efficiency: N/A  
Efficacy: 74.9 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')  
IES Classification: Type IV - Short  
BUG Rating: B1 - U0 - G1  
  
Input Watts (W): 34  
Input Voltage (V): NR  
Input Current (Ain): NR  
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

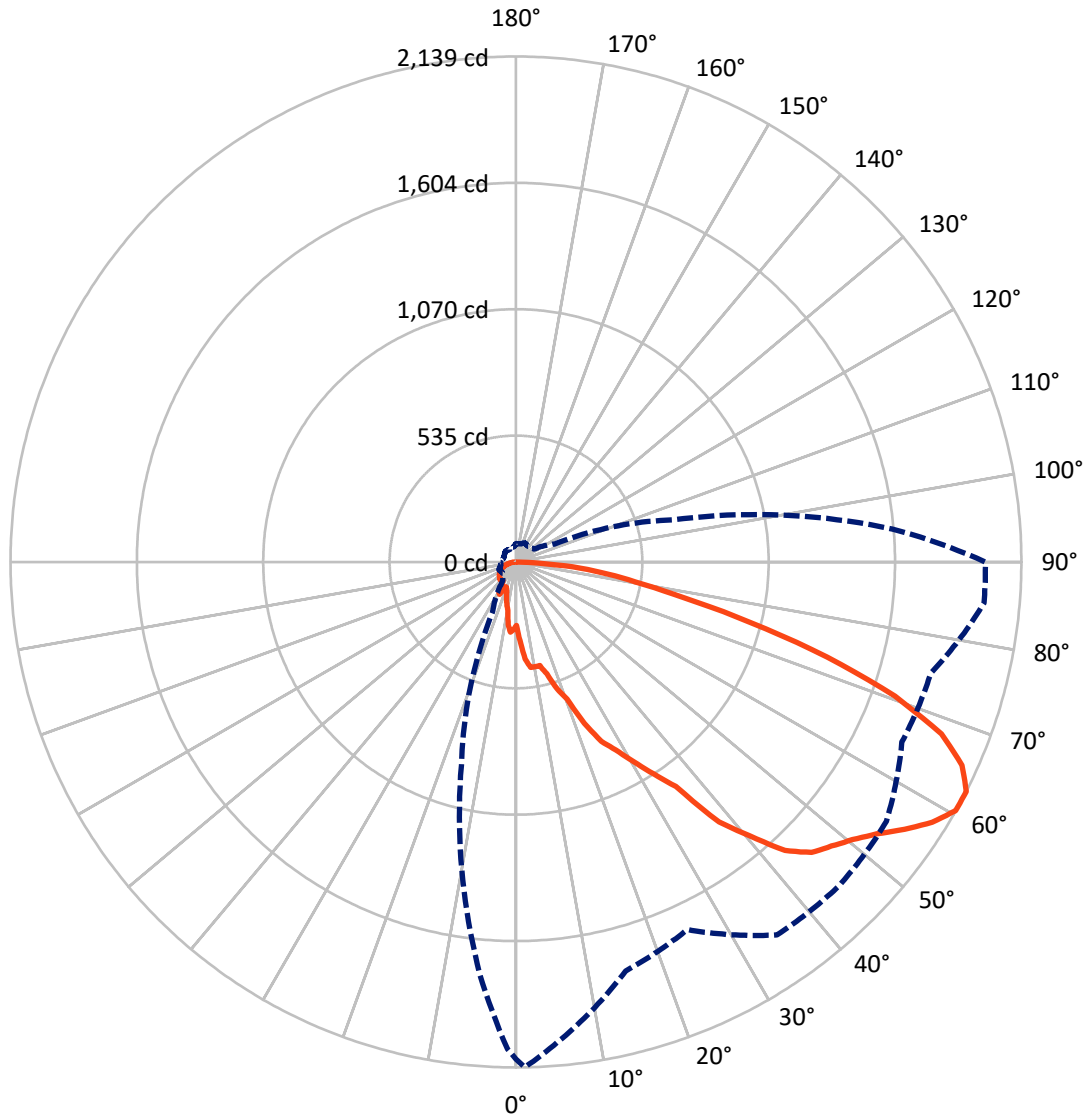
✕ Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 1.1 fc  
 Type IV - Short - N/A

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### Luminous Intensity Polar Plot



— Vertical Plane Through 1-Deg Lateral      - - - Horizontal Cone Through 62.5-Deg Vertical

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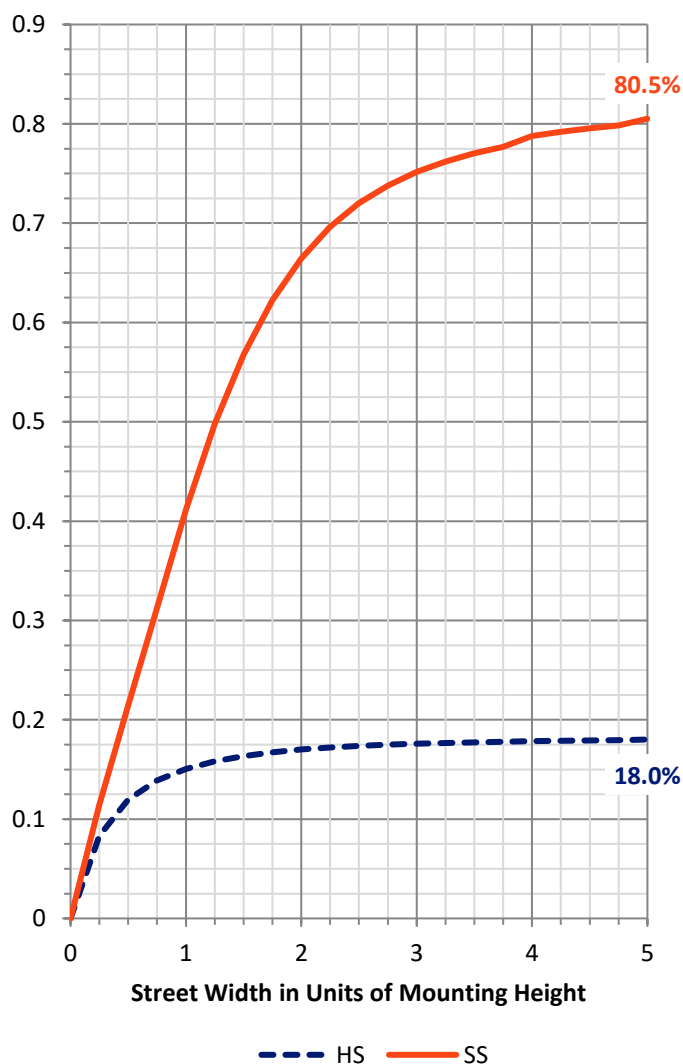
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	463.4	0.0	463.4
	% Fixture	18.2	0.0	18.2
<b>Street Side</b>	Lumens	2081.6	0.0	2081.6
	% Fixture	81.8	0.0	81.8
<b>Total</b>	Lumens	2545.0	0.0	2545.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	30.8	1.2
10°-20°	89.4	3.5
20°-30°	157.8	6.2
30°-40°	245.8	9.7
40°-50°	404.8	15.9
50°-60°	577.8	22.7
60°-70°	612.7	24.1
70°-80°	338.4	13.3
80°-90°	87.5	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°	2545.0	100.0
0°-180°	2545.0	100.0

**Coefficient of Utilization**



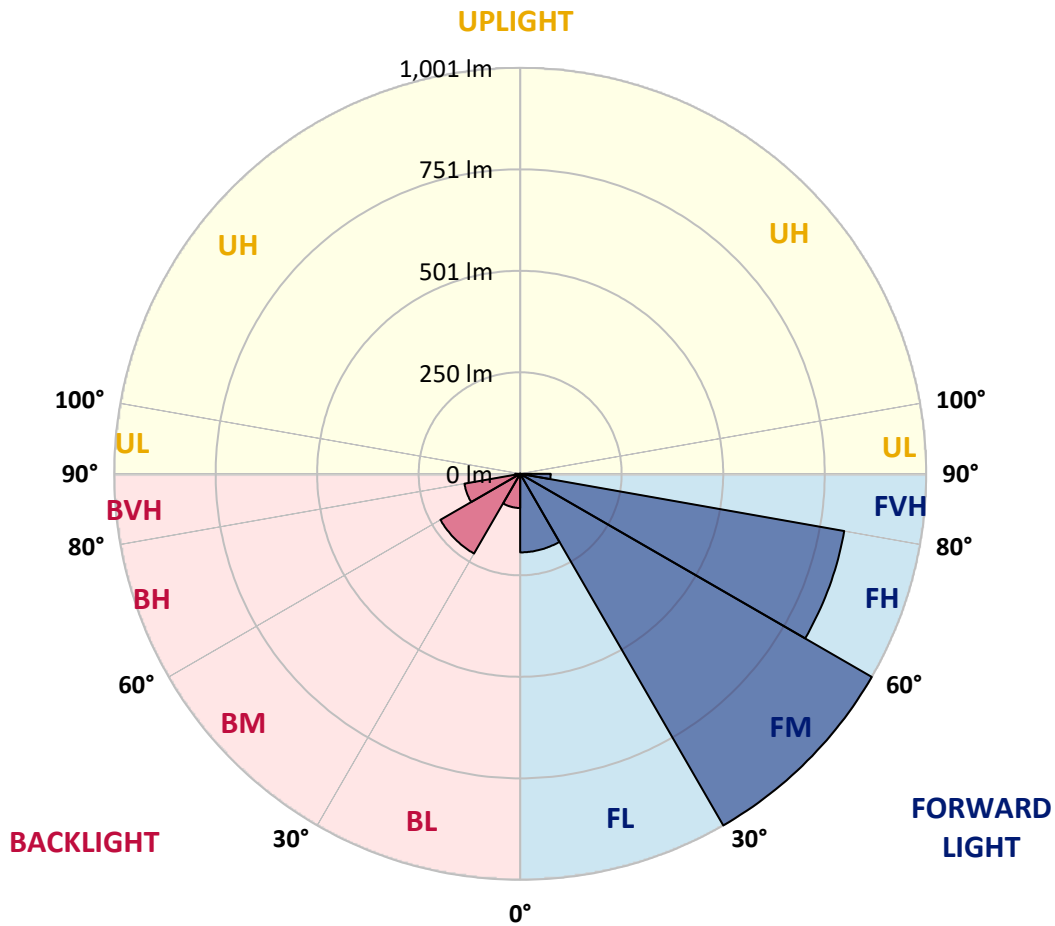
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	193.7	7.6			
FM (30°-60°)	1001.2	39.3			
FH (60°-80°)	811.4	31.9			G1/1800
FVH (80°-90°)	75.2	3.0			G1/100
BL (0°-30°)	84.3	3.3	B0/110		
BM (30°-60°)	227.2	8.9	B1/1000		
BH (60°-80°)	139.6	5.5	B1/500		G1/500
BVH (80°-90°)	12.3	0.5			G1/100
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B1-U0-G1**

Type IV Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	1°	5°	15°	25°	35°	45°	55°	65°	75°	85°
0°	268.4	268.4	268.4	268.4	268.4	268.4	268.4	268.4	268.4	268.4	268.4
2.5°	330.0	332.8	327.0	320.5	293.4	319.5	311.7	326.2	321.5	290.1	347.5
5°	407.8	413.0	407.3	426.9	428.2	433.2	386.4	415.6	405.5	402.9	431.9
7.5°	445.3	450.7	465.1	500.1	527.3	502.6	475.4	469.3	461.4	440.8	458.3
10°	447.7	450.7	470.0	544.1	557.4	574.9	557.2	515.6	498.5	453.6	440.3
12.5°	440.7	449.9	475.0	565.3	604.5	623.7	628.0	581.7	539.6	488.4	481.7
15°	488.0	491.3	527.2	580.3	607.4	623.6	637.6	609.1	595.9	555.4	500.9
17.5°	555.8	565.0	594.4	614.0	632.3	635.4	623.8	612.7	591.7	645.8	587.9
20°	601.7	619.6	655.7	659.4	621.0	627.8	626.2	626.9	614.9	714.9	683.1
22.5°	723.2	742.6	747.6	726.1	653.7	622.7	628.9	646.8	694.0	779.7	815.7
25°	833.3	840.8	885.9	830.5	715.2	647.6	637.5	683.8	760.8	888.6	914.3
27.5°	890.7	900.4	930.5	810.0	722.9	615.5	591.8	662.3	740.8	837.3	950.1
30°	964.2	979.7	1020.6	830.5	745.9	636.5	584.0	651.5	738.2	870.9	1025.9
32.5°	1039.9	1070.1	1100.5	902.8	742.7	668.6	633.8	639.2	761.6	941.3	1104.5
35°	1140.2	1166.8	1193.0	944.5	807.4	695.4	660.9	718.4	821.9	1023.0	1214.0
37.5°	1354.6	1396.8	1327.8	1063.3	877.8	816.2	753.9	787.9	885.6	1091.0	1393.0
40°	1491.2	1522.9	1456.2	1144.2	1001.8	897.6	887.4	890.2	973.4	1149.3	1513.4
42.5°	1626.9	1669.9	1563.8	1255.3	1151.8	1065.7	1012.8	1009.3	1071.7	1254.0	1650.3
45°	1728.1	1753.5	1600.7	1348.9	1312.6	1248.7	1209.1	1146.2	1200.9	1326.5	1735.1
47.5°	1776.3	1796.9	1660.1	1403.3	1416.8	1420.1	1491.6	1384.4	1313.8	1375.6	1779.5
50°	1836.5	1846.2	1695.1	1451.3	1515.9	1662.3	1679.5	1497.8	1423.7	1429.0	1805.8
52.5°	1908.3	1912.4	1746.1	1506.6	1616.0	1821.6	1795.1	1690.0	1528.3	1526.7	1855.4
55°	1998.7	1996.3	1810.0	1581.1	1687.5	1916.4	1896.2	1819.7	1642.3	1607.6	1932.4
57.5°	2079.1	2077.7	1894.9	1649.6	1747.7	1965.0	1971.0	1950.7	1719.9	1665.5	2015.9
60°	2118.5	2137.4	1991.5	1724.6	1751.5	1987.0	1989.2	1957.0	1806.6	1739.9	2038.1
62.5°	2103.2	2139.2	2038.9	1792.0	1716.3	1927.0	1936.2	1914.0	1802.6	1817.9	1988.5
65°	2033.6	2075.1	1997.8	1827.9	1694.7	1826.5	1828.8	1772.6	1746.2	1869.7	1872.2
67.5°	1902.9	1941.8	1866.8	1770.6	1546.7	1555.5	1607.9	1612.4	1573.9	1830.7	1708.8
70°	1674.2	1701.6	1654.7	1629.1	1292.8	1241.4	1298.2	1322.6	1340.1	1689.7	1512.6
72.5°	1325.4	1378.4	1385.8	1402.5	1040.9	955.3	997.4	961.3	1075.6	1438.2	1235.9
75°	980.6	1025.3	1073.3	1166.3	820.4	715.2	710.0	691.6	798.3	1156.6	916.6
77.5°	693.0	721.5	758.4	931.7	619.1	550.8	554.0	535.4	576.5	874.1	633.2
80°	496.7	511.7	528.8	613.8	456.7	475.2	475.7	458.1	428.7	593.7	422.6
82.5°	354.0	365.6	385.2	404.8	340.5	389.5	389.2	388.0	339.9	401.3	264.4
85°	197.1	212.7	246.8	317.2	245.9	278.5	244.9	269.7	249.5	267.1	133.9
87.5°	13.8	12.4	55.2	183.8	114.7	83.9	44.0	87.1	111.6	139.6	18.6
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°	268.4	268.4	268.4	268.4	268.4	268.4	268.4	268.4	268.4	268.4	268.4
2.5°	359.4	363.7	346.8	321.3	328.3	320.7	311.2	296.4	265.9	284.8	284.9
5°	431.6	415.2	402.0	389.5	368.5	336.8	332.6	307.1	292.8	300.4	299.2
7.5°	454.2	430.9	411.0	366.4	327.5	278.2	263.4	248.4	242.1	260.3	267.6
10°	429.4	405.1	385.6	331.4	304.9	274.2	233.4	212.5	200.2	205.0	207.9
12.5°	449.4	424.6	363.2	333.0	289.4	270.6	234.9	204.3	186.0	190.4	185.1
15°	468.7	435.2	373.8	313.6	278.2	251.1	222.2	190.6	169.1	161.4	157.3
17.5°	539.1	483.5	372.6	302.7	262.2	230.9	196.1	161.5	147.2	139.3	132.5
20°	624.9	547.5	379.3	291.5	245.1	205.8	167.8	135.7	125.7	120.5	118.7
22.5°	727.1	629.5	417.4	289.9	229.1	187.4	152.3	132.3	121.0	115.3	113.0
25°	808.2	714.3	445.6	300.7	228.2	172.2	142.9	147.0	141.8	143.5	129.8
27.5°	887.0	737.4	429.8	295.9	205.3	145.2	140.7	149.2	153.6	155.0	154.5
30°	953.6	835.0	433.2	268.7	173.4	118.3	107.7	111.9	124.1	143.5	147.2
32.5°	1051.0	881.7	462.8	252.3	155.0	105.8	94.0	92.4	95.2	102.3	108.3
35°	1165.0	989.1	471.0	248.0	142.3	100.3	92.0	88.3	89.8	95.1	96.3
37.5°	1377.5	1067.4	501.7	242.7	137.6	96.9	90.5	89.2	92.4	96.7	99.2
40°	1494.7	1208.2	503.1	238.1	131.5	95.6	91.5	90.9	92.9	98.8	100.3
42.5°	1651.0	1288.5	526.4	232.8	129.4	97.4	93.5	93.2	95.0	98.4	101.1
45°	1746.2	1342.2	527.6	229.7	128.9	105.6	96.1	95.2	94.8	96.9	99.4
47.5°	1807.6	1419.6	542.7	226.3	131.9	107.7	99.2	95.5	94.2	95.1	96.9
50°	1865.7	1481.5	571.2	225.8	135.0	105.6	104.6	95.3	92.9	92.5	93.9
52.5°	1937.1	1583.3	606.4	230.5	134.2	102.5	108.7	94.8	90.4	89.5	90.9
55°	2041.0	1692.3	643.8	226.5	126.6	96.6	104.7	94.5	87.8	86.2	87.4
57.5°	2108.3	1754.8	685.7	223.2	115.0	92.1	101.1	94.7	88.1	84.5	85.2
60°	2085.9	1721.2	702.1	202.8	104.0	88.7	92.6	92.7	85.8	82.5	83.1
62.5°	1987.1	1599.6	686.8	179.1	95.8	83.7	83.9	89.0	79.4	77.1	78.1
65°	1849.1	1448.3	624.8	163.6	92.0	78.5	76.6	78.2	70.8	69.0	71.0
67.5°	1679.6	1261.8	532.5	147.3	90.6	71.5	69.2	68.5	63.9	61.9	63.9
70°	1467.1	1056.6	425.7	135.9	85.5	63.9	62.0	61.4	57.4	55.9	57.7
72.5°	1179.2	825.0	328.5	127.1	79.8	56.8	55.2	54.5	51.1	49.0	51.1
75°	838.7	630.5	244.0	113.6	71.8	49.6	47.8	46.8	43.7	41.7	43.6
77.5°	596.0	473.3	170.4	94.0	59.2	42.0	40.9	39.3	36.6	34.2	36.1
80°	440.7	338.1	109.9	72.5	45.2	33.6	33.0	31.9	29.3	26.4	27.8
82.5°	290.1	243.8	63.0	49.2	32.9	24.2	24.7	24.0	21.5	18.5	19.3
85°	129.9	144.4	33.5	27.0	21.4	14.6	15.9	15.4	13.6	10.7	11.0
87.5°	12.5	24.3	10.3	9.9	7.9	4.6	5.7	4.8	4.1	2.6	2.0
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):**

	185°	195°	205°	215°	225°	235°	245°	255°	265°	270°	275°
0°	268.4	268.4	268.4	268.4	268.4	268.4	268.4	268.4	268.4	268.4	268.4
2.5°	289.2	271.8	254.4	265.0	265.3	268.1	268.5	258.0	266.4	272.8	279.5
5°	293.8	282.4	283.1	272.8	267.3	274.4	272.9	270.1	275.2	282.2	290.7
7.5°	260.7	253.3	252.1	242.2	218.2	212.9	217.4	219.2	226.0	236.9	246.0
10°	203.5	218.2	201.7	197.8	191.6	179.2	172.0	171.2	185.6	194.4	202.0
12.5°	183.4	179.7	177.7	167.2	167.2	154.1	149.9	153.8	176.0	182.3	192.2
15°	156.2	153.5	144.4	139.2	136.7	131.4	135.9	139.6	160.3	160.8	171.2
17.5°	129.7	128.1	119.4	118.4	116.0	113.6	117.7	126.6	137.8	135.9	140.7
20°	116.0	110.4	102.5	105.3	102.8	100.9	99.2	111.8	119.7	122.3	125.1
22.5°	112.5	102.4	97.7	95.1	95.2	92.3	92.6	103.1	115.1	116.7	115.0
25°	128.6	110.5	95.3	87.8	85.0	84.0	86.8	96.1	110.5	114.0	115.3
27.5°	150.4	120.0	98.2	85.3	79.7	80.2	84.2	90.6	107.7	113.9	115.5
30°	144.4	112.9	98.3	83.5	76.4	79.0	80.5	86.7	105.5	114.7	122.8
32.5°	111.4	101.5	98.9	85.0	82.1	78.1	80.2	86.1	98.9	104.7	105.1
35°	94.4	86.8	85.1	81.6	77.7	76.0	78.3	83.5	91.9	95.5	95.0
37.5°	93.6	85.3	78.5	77.1	75.5	75.0	76.3	81.1	89.7	96.0	94.6
40°	94.8	84.6	77.7	75.1	75.7	73.5	74.8	80.8	90.0	96.0	94.7
42.5°	93.4	83.7	76.6	74.6	75.2	72.1	73.7	79.9	89.0	96.1	93.7
45°	90.4	81.8	76.0	72.6	75.5	70.9	72.9	77.7	86.1	93.7	91.0
47.5°	87.4	79.4	73.4	71.3	74.1	69.7	70.5	74.7	83.1	90.6	88.3
50°	84.2	76.4	71.3	70.6	72.6	69.4	68.0	71.5	79.5	87.1	85.1
52.5°	80.8	74.0	69.8	69.5	71.4	67.8	65.8	68.5	75.7	83.2	81.6
55°	77.4	71.3	67.9	68.5	70.6	66.4	64.0	65.7	71.6	79.0	76.8
57.5°	74.1	68.2	65.5	67.2	68.8	64.7	61.6	62.6	67.4	74.7	72.1
60°	71.1	65.5	62.7	64.8	66.3	62.1	58.5	59.2	63.5	70.0	67.7
62.5°	67.3	62.5	58.9	61.6	62.7	58.7	54.8	55.6	59.0	65.2	63.5
65°	61.9	58.8	55.5	57.3	58.8	54.6	51.0	51.9	54.5	60.3	59.0
67.5°	57.2	54.2	52.0	53.5	53.7	50.5	47.3	47.8	49.9	55.3	54.0
70°	52.0	49.2	47.4	48.5	48.4	45.7	43.2	43.3	45.1	50.0	48.2
72.5°	46.3	43.6	42.7	43.3	42.9	40.4	38.0	38.9	40.0	43.7	42.2
75°	40.3	37.8	37.3	37.9	37.2	34.8	32.7	33.6	34.6	37.7	35.8
77.5°	34.0	31.7	31.9	32.0	31.0	29.4	27.3	28.2	28.8	30.9	29.0
80°	27.0	25.3	25.8	25.8	24.7	23.6	21.6	21.9	22.2	23.0	21.6
82.5°	19.8	19.8	19.8	19.9	17.5	17.9	16.2	16.1	15.7	15.6	14.7
85°	11.7	12.2	12.5	12.8	9.5	11.1	9.6	9.3	8.5	7.8	7.5
87.5°	2.6	3.3	3.3	3.2	0.0	1.2	0.6	1.0	0.2	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°	268.4	268.4	268.4	268.4	268.4	268.4	268.4	268.4	268.4	268.4
2.5°	271.8	264.4	278.2	290.6	288.6	295.8	279.1	303.8	330.0	330.0
5°	288.5	282.2	285.8	292.9	298.4	323.3	344.1	364.7	407.3	407.8
7.5°	243.3	256.9	260.1	258.0	281.3	313.4	347.7	406.4	442.5	445.3
10°	227.5	233.7	243.4	248.9	258.4	290.0	332.5	402.2	440.5	447.7
12.5°	206.1	229.0	243.8	274.2	281.7	288.0	355.6	416.0	442.4	440.7
15°	182.8	200.1	221.4	255.0	274.2	322.3	369.3	459.9	474.9	488.0
17.5°	145.7	158.5	186.9	225.1	272.6	316.9	403.1	514.3	542.2	555.8
20°	119.9	120.0	148.4	199.2	250.8	294.2	416.0	559.3	594.8	601.7
22.5°	113.4	107.7	122.6	163.9	226.9	307.6	441.9	631.8	705.8	723.2
25°	109.8	102.9	112.3	144.6	209.7	314.7	494.1	731.5	826.5	833.3
27.5°	111.3	114.5	117.4	128.9	188.0	301.5	482.0	776.1	877.8	890.7
30°	121.3	126.5	119.7	123.6	170.1	282.3	503.6	848.5	942.6	964.2
32.5°	100.9	98.9	98.3	107.0	152.2	265.0	549.0	950.3	1012.7	1039.9
35°	91.0	87.9	89.2	99.0	143.4	262.6	574.4	1034.7	1123.5	1140.2
37.5°	90.6	87.1	88.7	96.1	146.5	267.0	615.2	1170.0	1318.9	1354.6
40°	89.8	87.8	88.7	94.2	143.3	269.5	638.6	1283.8	1455.0	1491.2
42.5°	89.7	88.7	89.5	95.7	139.9	270.6	671.1	1386.5	1598.4	1626.9
45°	89.3	90.3	90.3	96.9	138.4	278.0	690.2	1436.9	1693.0	1728.1
47.5°	87.6	90.5	95.3	96.6	132.4	274.5	717.3	1513.4	1743.2	1776.3
50°	85.3	90.2	101.8	94.1	131.4	266.1	748.9	1574.0	1807.7	1836.5
52.5°	82.4	89.5	100.3	89.3	129.7	264.7	793.2	1652.8	1882.9	1908.3
55°	78.2	87.3	95.7	84.5	125.5	260.0	861.0	1750.5	1981.3	1998.7
57.5°	74.3	84.0	89.0	81.8	115.5	261.0	908.2	1830.2	2063.9	2079.1
60°	70.9	83.6	79.5	78.9	105.2	247.7	923.5	1829.3	2094.7	2118.5
62.5°	67.2	78.9	72.9	75.1	96.2	234.2	891.1	1750.9	2061.5	2103.2
65°	62.4	67.7	67.3	72.4	96.5	212.1	816.6	1612.6	1978.6	2033.6
67.5°	56.7	59.9	62.0	67.9	99.5	194.9	696.8	1446.2	1837.6	1902.9
70°	50.9	54.1	56.4	62.1	102.4	187.0	554.6	1212.5	1607.9	1674.2
72.5°	45.0	48.3	50.1	55.1	98.6	170.1	410.5	943.4	1290.6	1325.4
75°	38.8	42.0	43.5	48.0	85.6	140.7	283.4	714.6	945.3	980.6
77.5°	32.5	35.9	36.4	40.1	65.3	107.6	181.7	548.1	669.4	693.0
80°	25.9	29.4	29.4	31.4	45.9	74.0	108.8	413.5	487.5	496.7
82.5°	18.6	22.4	22.1	22.2	31.7	45.8	63.0	309.9	352.2	354.0
85°	11.0	13.6	13.5	12.4	18.8	24.7	34.1	192.4	196.6	197.1
87.5°	2.1	3.2	2.8	1.2	5.2	7.3	9.9	35.7	14.2	13.8
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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