

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: P367049

Luminaire Tested: **MSA-SA1D-740-U-SLL-HSS**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P367049
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-25)
Test Lab: INNOVATION CENTER
Issue Date: 12/2/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: INVUE
Catalog Number: MSA-SA1D-740-U-SLL-HSS
Description: MESA POST TOP DECORATIVE LUMINAIRE. (1) LIGHTSQUARES WITH 16 LEDS EACH AND SPILL LIGHT ELIMINATOR LEFT OPTICS WITH HOUSE SIDE SHIELD
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5002 lumens
Efficiency: N/A
Efficacy: 74.7 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')
IES Classification: Type IV - Short
BUG Rating: B1 - U0 - G2

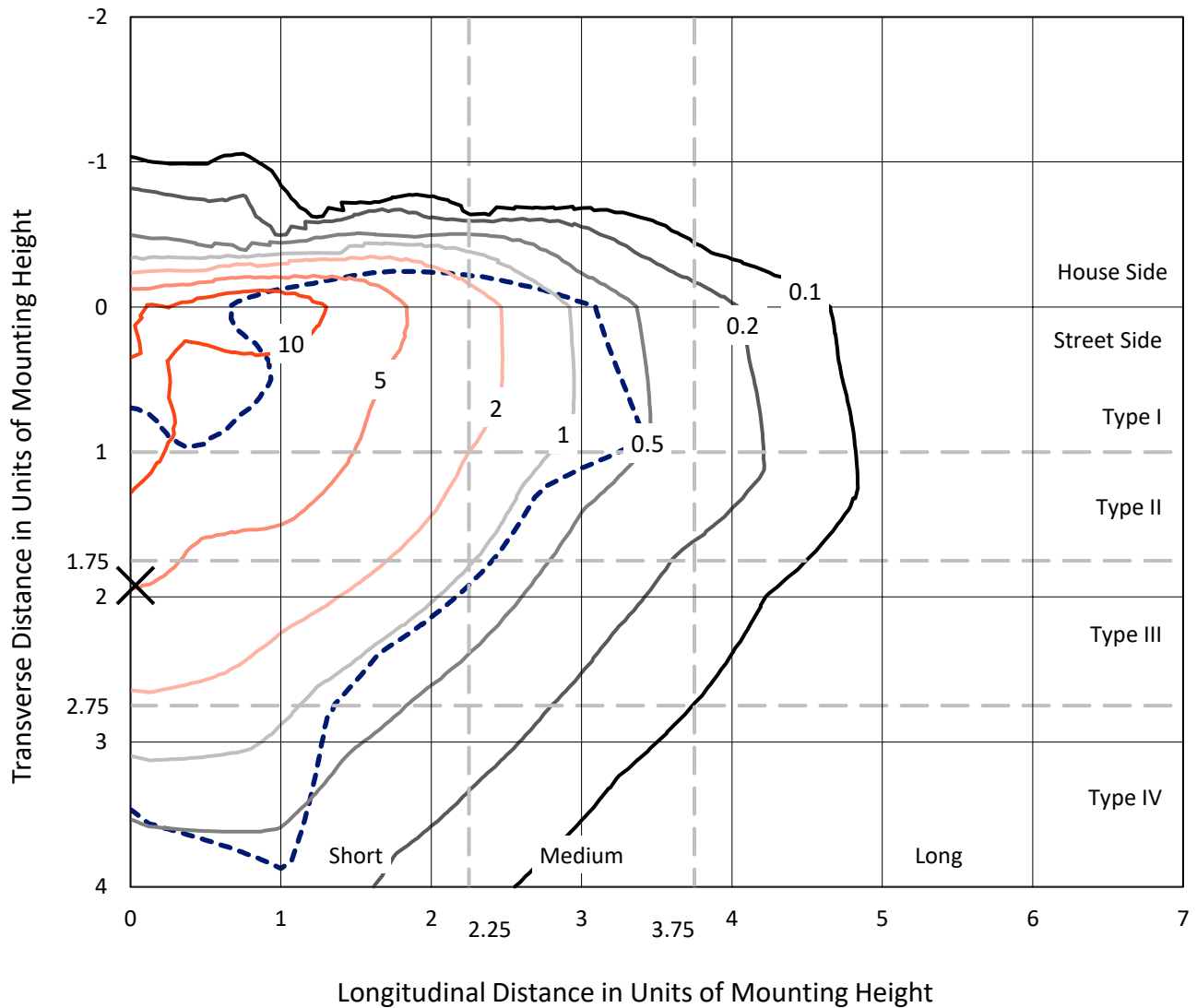
Input Watts (W): 67
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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Iso-Footcandle Lines of Horizontal Illumination

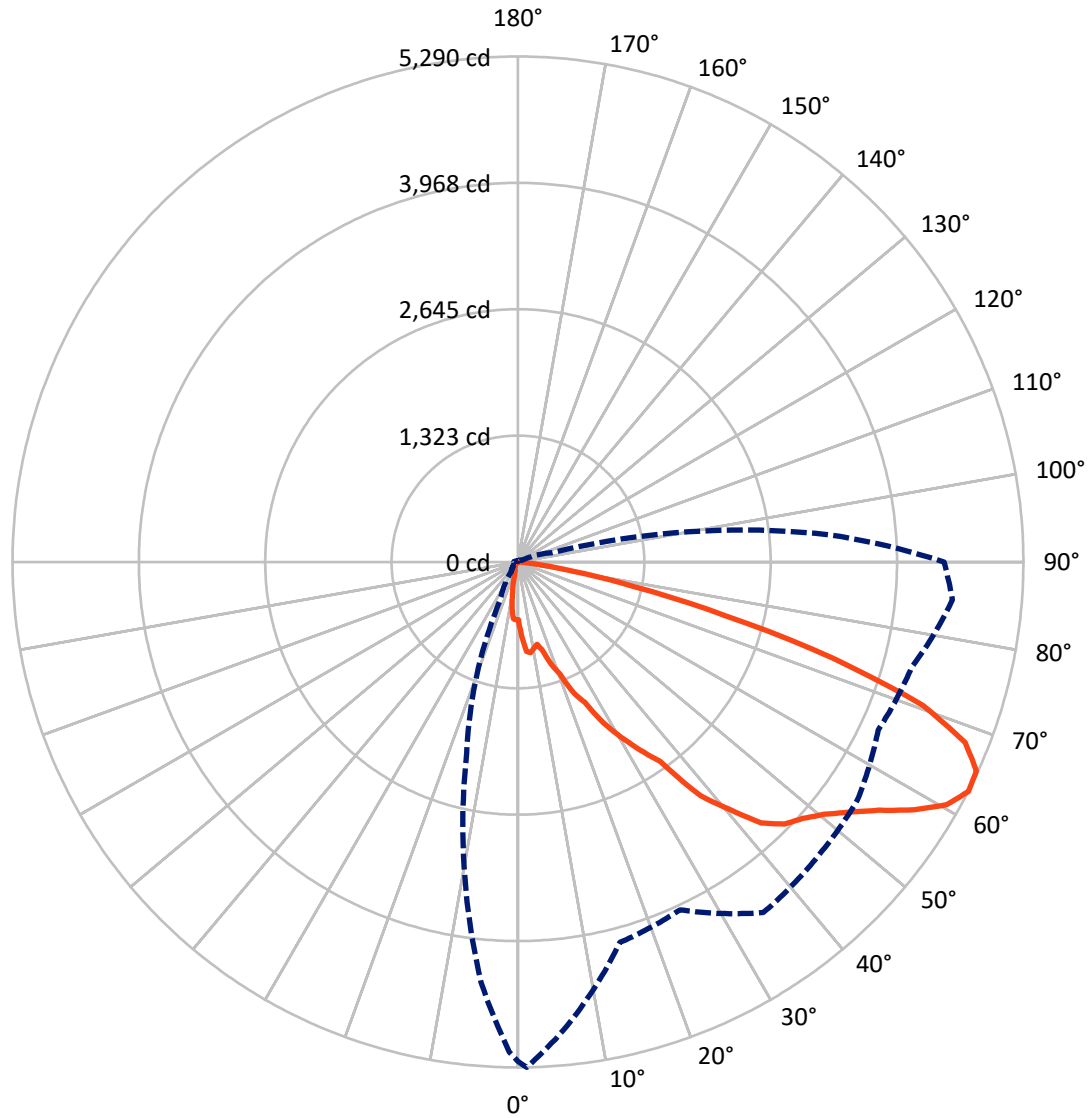
× Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 16.1 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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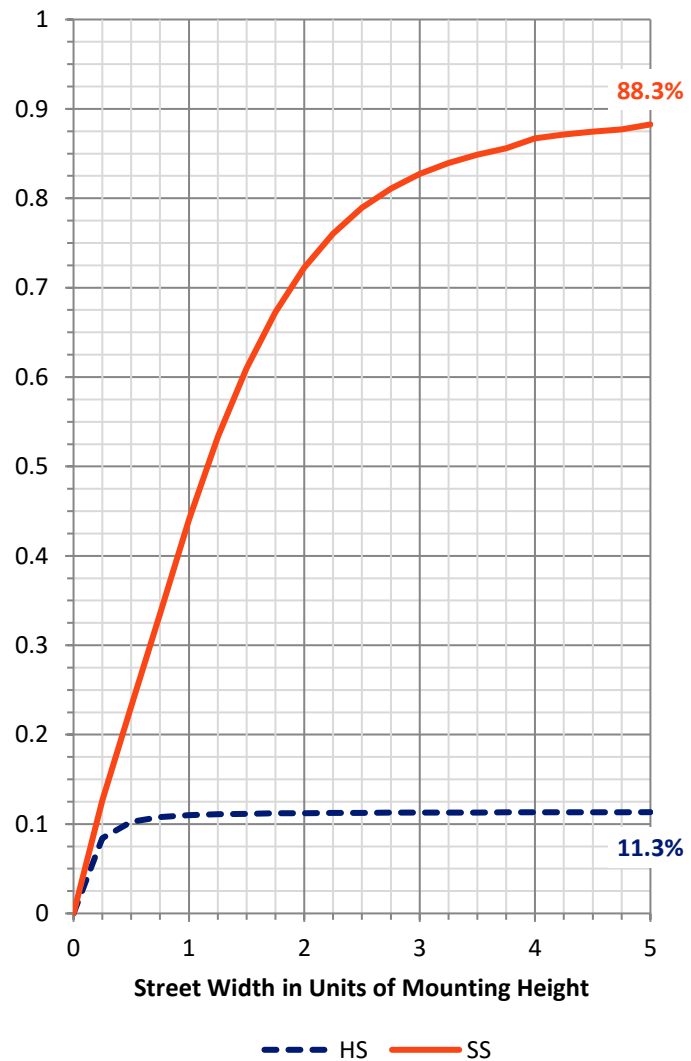
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	572.0	0.0	572.0
	% Fixture	11.4	0.0	11.4
Street Side	Lumens	4430.0	0.0	4430.0
	% Fixture	88.6	0.0	88.6
Total	Lumens	5002.0	0.0	5002.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	67.3	1.3
10°-20°	175.9	3.5
20°-30°	284.3	5.7
30°-40°	476.2	9.5
40°-50°	778.6	15.6
50°-60°	1152.5	23.0
60°-70°	1323.2	26.5
70°-80°	654.3	13.1
80°-90°	89.8	1.8
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°	5002.0	100.0
0°-180°	5002.0	100.0

Coefficient of Utilization



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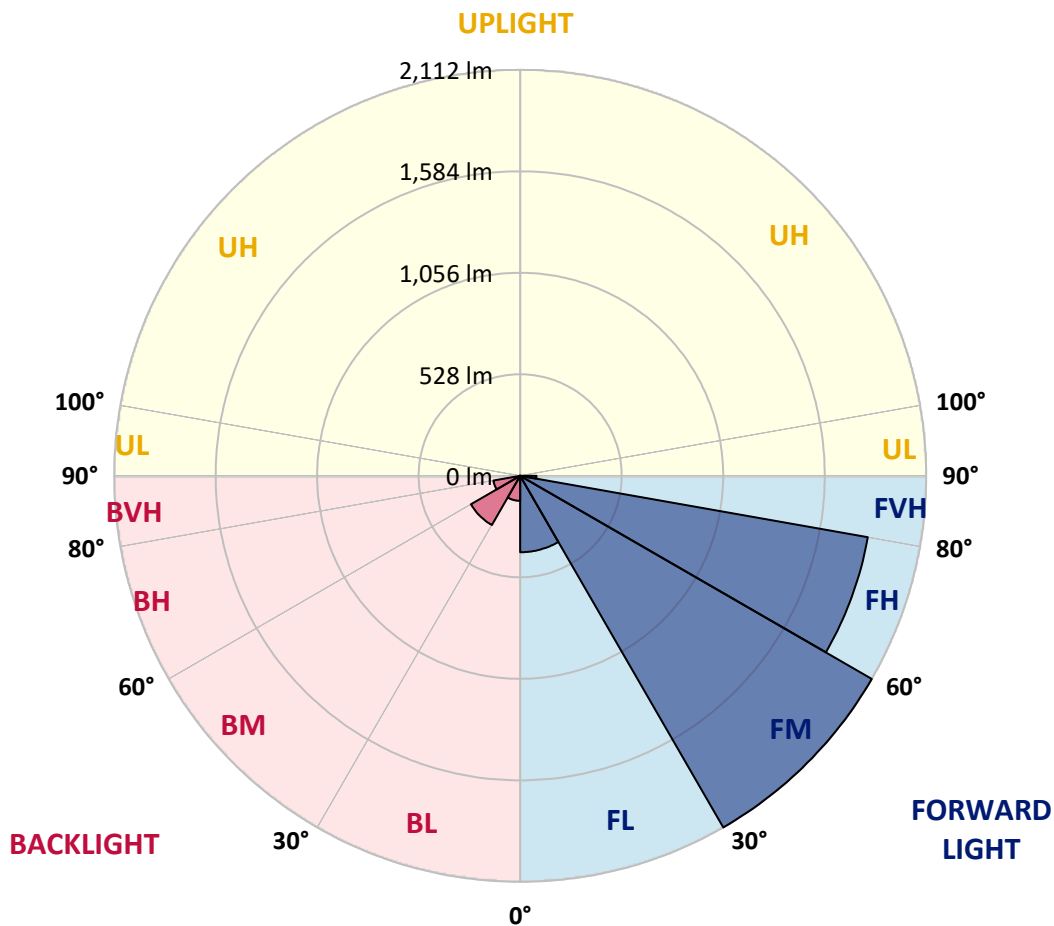
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	397.3	7.9			
FM (30°-60°)	2111.8	42.2			
FH (60°-80°)	1836.1	36.7			G2/5000
FVH (80°-90°)	84.8	1.7			G1/100
BL (0°-30°)	130.1	2.6	B1/500		
BM (30°-60°)	295.5	5.9	B1/1000		
BH (60°-80°)	141.4	2.8	B1/500		G1/500
BVH (80°-90°)	5.0	0.1			G0/10
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

BUG Rating: B1-U0-G2

Type IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	1°	5°	15°	25°	35°	45°	55°	65°	75°	85°
0°	602.6	602.6	602.6	602.6	602.6	602.6	602.6	602.6	602.6	602.6	602.6
2.5°	777.0	780.7	763.3	761.1	720.6	771.0	772.5	778.4	741.4	669.6	769.9
5°	929.8	940.1	926.7	986.2	1003.3	1040.1	972.6	1033.0	1007.3	1014.5	1029.0
7.5°	948.0	958.6	986.8	1086.6	1178.6	1155.5	1148.1	1170.9	1168.9	1116.2	1142.4
10°	910.1	919.0	966.0	1147.6	1187.8	1291.5	1316.9	1264.4	1243.1	1127.6	1077.2
12.5°	868.8	883.6	943.5	1161.2	1281.8	1386.7	1470.2	1395.5	1324.6	1201.7	1155.5
15°	948.0	956.3	1050.4	1189.8	1295.2	1367.6	1436.0	1411.2	1400.4	1312.0	1155.5
17.5°	1103.4	1122.8	1190.9	1259.6	1342.8	1386.4	1370.2	1362.5	1334.8	1473.6	1311.7
20°	1214.0	1250.2	1339.4	1369.0	1302.9	1343.7	1333.7	1326.9	1305.2	1563.4	1491.3
22.5°	1453.4	1486.8	1488.5	1499.0	1345.1	1280.1	1263.6	1265.6	1363.9	1590.2	1714.8
25°	1616.5	1627.9	1717.9	1642.7	1460.3	1299.5	1236.5	1264.7	1406.4	1782.9	1924.9
27.5°	1883.2	1910.3	1966.5	1711.7	1529.2	1287.2	1186.9	1289.5	1518.1	1846.8	2158.3
30°	2100.7	2126.7	2217.0	1806.0	1589.1	1347.9	1208.3	1339.4	1587.7	1978.2	2368.1
32.5°	2277.2	2344.2	2446.8	1951.7	1586.8	1417.8	1317.4	1322.9	1673.2	2148.3	2575.6
35°	2502.6	2565.1	2637.2	2052.0	1690.6	1440.3	1349.7	1485.3	1800.3	2326.2	2854.9
37.5°	3010.9	3105.2	2962.7	2304.8	1811.4	1643.8	1476.8	1585.4	1933.4	2507.8	3238.9
40°	3321.0	3400.5	3262.8	2433.9	2020.6	1746.4	1703.7	1759.3	2063.7	2601.5	3528.2
42.5°	3626.5	3731.4	3501.4	2628.3	2219.3	2036.0	1919.2	1963.9	2252.1	2827.9	3853.7
45°	3847.7	3912.7	3553.0	2730.1	2492.4	2366.1	2288.3	2221.6	2514.9	2973.2	4063.8
47.5°	3958.9	4010.8	3654.8	2762.3	2654.8	2715.3	2885.7	2746.3	2747.5	3078.4	4177.0
50°	4112.8	4149.0	3711.8	2800.8	2831.3	3259.4	3345.5	3048.8	3013.1	3183.9	4195.5
52.5°	4329.2	4346.8	3822.4	2902.3	3095.5	3685.5	3716.6	3596.6	3279.1	3380.0	4236.5
55°	4616.8	4585.7	4019.9	3115.5	3371.1	3997.7	4039.3	3934.7	3613.4	3575.8	4363.7
57.5°	4926.9	4891.3	4312.6	3415.9	3670.2	4236.2	4261.0	4269.3	3835.5	3749.1	4579.7
60°	5149.2	5155.8	4681.2	3760.5	3856.0	4464.6	4415.0	4339.7	4059.5	4003.1	4684.9
62.5°	5227.0	5290.0	4968.2	4121.7	4016.2	4478.8	4401.8	4338.3	4159.8	4265.0	4564.3
65°	5163.5	5273.5	5034.9	4438.9	4113.1	4300.1	4220.0	4179.2	4156.7	4371.9	4297.5
67.5°	4910.9	5048.6	4843.9	4441.8	3760.8	3661.3	3756.0	3885.1	3810.4	4283.3	3923.8
70°	4345.1	4495.9	4400.7	4181.2	3132.9	2880.6	2984.9	3180.2	3127.4	3809.5	3374.0
72.5°	3260.0	3453.8	3472.6	3609.7	2487.0	2168.0	2183.1	2177.7	2268.6	3071.9	2632.9
75°	2094.2	2245.0	2448.8	2912.8	1889.2	1582.8	1438.0	1402.7	1572.3	2400.3	1885.0
77.5°	1215.7	1233.6	1327.7	2197.6	1353.1	1140.4	1041.8	1092.3	1151.6	1675.2	1249.3
80°	581.5	590.6	629.4	1130.7	940.1	987.1	911.0	967.7	790.7	962.9	708.9
82.5°	184.4	186.4	193.0	555.5	583.8	653.9	419.0	561.8	488.8	582.0	472.0
85°	30.8	52.4	64.7	160.5	329.5	220.6	90.9	200.4	272.8	367.1	214.3
87.5°	0.0	0.0	0.0	2.9	26.8	12.5	2.0	11.4	41.9	81.8	9.7
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°	602.6	602.6	602.6	602.6	602.6	602.6	602.6	602.6	602.6	602.6	602.6
2.5°	799.0	818.6	744.5	678.1	694.9	681.5	661.3	626.8	547.0	605.7	601.7
5°	1028.1	991.6	891.3	844.6	787.6	700.6	690.1	623.4	594.0	598.9	594.6
7.5°	1107.9	1042.7	954.0	813.2	679.5	554.1	515.6	472.0	463.2	482.0	494.3
10°	1045.2	976.0	898.4	723.4	620.5	529.9	435.0	374.0	340.9	336.9	340.3
12.5°	1074.0	999.3	839.7	705.8	598.3	516.2	410.2	318.1	246.3	251.7	237.4
15°	1094.0	1008.2	825.8	668.7	552.4	442.7	315.0	222.9	164.2	147.1	136.8
17.5°	1211.1	1088.6	808.1	625.9	488.3	344.6	197.8	129.1	110.0	104.0	99.2
20°	1361.6	1187.5	807.8	580.9	393.6	215.5	123.4	93.5	88.9	92.4	88.6
22.5°	1536.6	1319.2	850.8	524.8	282.5	136.0	96.1	82.9	78.4	81.2	81.5
25°	1712.8	1516.7	885.9	471.5	196.7	104.3	85.5	76.4	71.3	73.8	72.4
27.5°	2030.9	1680.3	877.9	403.3	144.8	91.8	79.5	71.5	63.8	67.8	67.6
30°	2239.0	1969.0	909.0	307.8	114.9	80.4	74.1	65.3	57.0	61.6	61.3
32.5°	2487.8	2093.0	942.6	236.3	95.5	76.1	66.7	58.1	53.3	56.2	55.6
35°	2767.4	2338.2	880.8	196.7	82.9	68.7	59.0	52.4	48.2	49.6	49.6
37.5°	3261.4	2543.1	843.7	160.2	77.2	62.1	55.3	47.3	44.8	44.8	46.2
40°	3541.9	2856.1	733.1	126.8	79.0	57.3	51.6	43.3	39.9	39.6	41.0
42.5°	3906.7	3036.5	663.9	102.6	71.5	55.9	47.3	39.3	35.3	35.1	36.5
45°	4123.1	3137.4	566.4	80.7	64.1	65.0	43.9	36.2	30.2	29.1	31.6
47.5°	4259.6	3271.1	511.1	64.1	55.9	64.7	42.8	31.4	25.4	23.9	26.2
50°	4328.9	3337.2	500.2	55.0	48.5	57.9	49.0	26.2	21.7	19.7	21.7
52.5°	4401.0	3444.7	504.2	50.7	42.8	46.5	46.5	22.5	19.1	16.8	18.2
55°	4546.6	3603.5	495.4	48.2	39.3	35.3	29.9	20.0	17.4	14.8	16.2
57.5°	4725.7	3717.5	495.4	45.9	36.5	30.2	23.9	18.5	16.0	12.8	14.0
60°	4691.7	3597.5	470.9	43.6	34.2	28.2	21.7	17.1	14.8	11.7	12.5
62.5°	4458.9	3271.1	381.4	40.2	32.2	26.8	19.7	16.2	14.0	10.3	11.1
65°	4185.2	2924.5	265.1	36.5	29.9	24.2	17.7	15.4	12.8	9.1	9.7
67.5°	3855.7	2511.5	147.1	32.8	27.6	21.1	16.2	15.1	12.3	8.3	8.8
70°	3283.9	1896.1	79.0	29.9	25.9	19.4	15.4	15.1	12.3	8.0	8.3
72.5°	2465.3	1194.0	46.2	27.4	23.7	18.0	14.5	15.4	12.0	7.7	7.7
75°	1677.5	724.9	33.1	23.4	21.1	15.1	14.0	14.8	12.3	7.7	7.1
77.5°	1140.4	509.4	27.1	21.1	19.1	13.4	14.3	14.8	12.3	6.3	4.8
80°	712.0	262.8	20.5	16.8	16.5	11.7	14.3	12.8	8.0	1.4	0.0
82.5°	498.0	97.8	12.0	12.8	12.8	8.3	11.1	9.1	4.6	0.0	0.0
85°	208.9	16.8	6.6	9.1	8.0	4.8	8.8	6.8	2.9	0.0	0.0
87.5°	3.7	0.0	2.6	5.4	5.7	2.9	4.6	2.9	0.0	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):

	185°	195°	205°	215°	225°	235°	245°	255°	265°	270°	275°
0°	602.6	602.6	602.6	602.6	602.6	602.6	602.6	602.6	602.6	602.6	602.6
2.5°	620.5	593.4	536.4	563.8	561.0	573.5	574.6	545.6	608.3	647.0	652.7
5°	595.2	576.9	573.8	558.1	554.1	577.2	564.7	563.8	594.0	638.2	638.5
7.5°	494.5	480.6	487.1	468.9	421.9	424.7	429.0	446.9	472.9	502.0	512.5
10°	339.5	375.7	349.2	346.9	342.0	326.9	315.0	324.4	358.0	384.8	394.8
12.5°	242.3	248.0	264.2	258.2	266.5	253.7	248.8	278.2	311.0	338.3	358.0
15°	141.7	151.4	161.0	181.6	189.8	187.3	202.1	226.6	253.1	265.7	289.9
17.5°	99.8	100.6	102.6	124.8	139.4	145.1	153.9	172.4	183.3	189.0	199.0
20°	87.2	84.7	81.2	93.8	107.5	114.6	112.0	126.6	135.4	141.1	148.2
22.5°	79.0	74.7	72.7	77.0	87.5	93.8	94.9	103.5	116.9	120.9	123.1
25°	71.3	68.4	67.0	69.3	75.0	81.0	82.1	93.2	105.2	106.9	111.4
27.5°	66.1	60.7	61.3	63.0	65.6	73.0	75.3	81.5	98.9	100.9	102.3
30°	60.7	55.0	56.7	58.4	57.3	66.4	69.8	77.0	93.8	96.9	98.6
32.5°	55.3	51.0	50.7	52.4	54.4	59.3	66.7	75.0	90.4	94.6	98.9
35°	49.3	45.9	46.5	46.7	49.3	55.6	61.0	65.3	75.8	78.1	79.5
37.5°	45.0	42.2	41.6	44.5	47.0	51.9	53.9	55.9	69.8	75.0	75.3
40°	39.9	38.2	38.2	40.2	45.9	45.3	47.9	54.2	67.6	73.0	73.5
42.5°	36.2	33.9	34.5	36.5	40.5	37.6	42.8	51.9	66.7	72.1	71.8
45°	30.5	29.9	31.1	32.8	34.5	31.9	39.9	49.6	63.8	71.0	69.0
47.5°	25.4	25.4	26.8	28.5	27.6	28.5	36.2	46.5	62.1	68.7	67.3
50°	20.8	21.1	22.5	25.4	22.8	25.1	32.5	43.3	59.3	66.4	65.3
52.5°	17.7	18.0	18.8	20.8	19.7	22.8	29.9	40.2	56.4	62.4	61.9
55°	15.4	16.0	16.0	17.1	17.7	21.4	27.1	37.1	52.2	58.7	57.6
57.5°	13.7	14.3	14.0	14.8	15.4	18.8	24.2	33.6	47.9	53.3	51.6
60°	12.3	12.8	12.5	13.7	13.4	16.2	21.1	29.9	43.3	47.6	46.2
62.5°	10.8	11.4	11.4	12.0	12.3	13.7	18.2	26.5	38.8	42.2	41.0
65°	9.7	10.3	10.5	10.3	10.8	11.7	15.4	23.9	33.6	37.1	35.3
67.5°	8.8	9.4	10.0	8.8	9.4	9.7	13.1	21.4	29.6	32.5	31.1
70°	8.6	8.8	8.8	7.7	7.4	7.7	11.4	18.2	25.9	28.8	26.8
72.5°	8.0	8.3	8.0	6.3	5.4	6.0	9.7	15.4	21.9	24.2	22.5
75°	7.4	7.7	7.4	5.1	3.4	4.3	8.0	13.4	18.8	20.0	19.1
77.5°	6.3	6.8	6.8	3.7	1.1	2.6	6.0	10.8	15.7	15.7	16.0
80°	0.6	1.7	2.9	2.0	0.0	0.3	2.0	5.7	10.0	9.7	10.5
82.5°	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	3.4	2.6	2.9
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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°	602.6	602.6	602.6	602.6	602.6	602.6	602.6	602.6	602.6	602.6
2.5°	639.3	630.5	641.6	675.5	661.9	664.4	655.3	711.5	775.0	777.0
5°	639.1	631.1	647.6	646.2	685.2	727.7	768.7	835.2	929.2	929.8
7.5°	507.7	555.0	567.2	563.5	613.7	672.1	735.4	862.5	939.8	948.0
10°	457.8	478.3	503.4	512.5	533.3	588.9	660.4	804.4	891.0	910.1
12.5°	396.8	462.3	495.7	560.4	572.4	580.3	693.2	818.3	871.1	868.8
15°	328.6	385.7	438.4	517.3	549.8	633.6	722.6	886.5	917.8	948.0
17.5°	232.6	275.6	356.6	439.5	538.7	629.9	803.5	1008.2	1067.5	1103.4
20°	155.6	176.4	249.7	359.4	485.1	575.8	836.6	1118.2	1182.9	1214.0
22.5°	126.3	136.2	174.2	263.4	414.4	573.2	850.0	1238.2	1412.1	1453.4
25°	111.2	118.0	138.2	195.0	344.0	561.8	924.1	1373.3	1583.1	1616.5
27.5°	97.2	107.5	122.6	160.8	295.0	553.8	961.7	1600.2	1850.5	1883.2
30°	92.9	105.5	120.0	146.5	260.8	523.0	1021.6	1804.9	2042.3	2100.7
32.5°	100.3	104.6	111.7	134.3	234.3	490.6	1126.8	2049.4	2201.1	2277.2
35°	79.5	87.2	99.8	123.1	223.2	488.8	1186.3	2206.8	2455.6	2502.6
37.5°	77.8	84.9	101.2	120.0	236.6	502.0	1274.7	2529.1	2914.5	3010.9
40°	75.5	84.7	100.0	118.6	236.6	514.8	1331.1	2787.1	3223.2	3321.0
42.5°	74.7	86.4	99.8	124.6	229.2	521.9	1416.4	3044.5	3549.3	3626.5
45°	74.1	88.1	100.6	131.7	227.5	545.3	1464.5	3169.6	3759.1	3847.7
47.5°	72.7	88.1	112.3	127.4	218.1	543.0	1527.0	3355.2	3884.2	3958.9
50°	71.5	88.6	127.1	119.4	219.5	529.0	1611.6	3529.3	4059.5	4112.8
52.5°	69.0	90.6	124.8	108.3	215.2	527.6	1737.9	3777.0	4290.1	4329.2
55°	63.3	88.1	112.9	94.6	200.1	511.4	1905.2	4099.1	4609.9	4616.8
57.5°	58.1	81.8	94.3	86.9	167.6	513.4	2049.4	4395.6	4895.0	4926.9
60°	53.0	84.9	73.3	81.0	138.8	476.9	2119.3	4509.0	5102.5	5149.2
62.5°	48.2	78.4	62.4	74.4	123.7	442.9	2070.8	4417.8	5129.0	5227.0
65°	42.8	54.4	52.7	66.7	125.1	395.3	1908.9	4150.7	5028.4	5163.5
67.5°	36.8	42.8	46.5	57.6	134.0	354.6	1631.3	3722.0	4757.9	4910.9
70°	32.2	38.5	40.5	50.5	139.4	327.8	1287.2	3127.2	4203.7	4345.1
72.5°	26.8	35.6	36.2	44.2	134.3	301.3	917.3	2245.0	3192.1	3260.0
75°	23.1	29.6	32.8	37.1	112.9	224.9	505.4	1389.6	2018.4	2094.2
77.5°	20.8	22.5	24.8	25.7	47.9	117.2	173.9	856.8	1130.2	1215.7
80°	16.0	17.7	17.1	17.7	26.2	40.5	66.1	401.6	533.9	581.5
82.5°	5.1	8.6	9.4	8.0	17.1	20.0	19.1	138.8	173.6	184.4
85°	1.1	3.1	1.4	0.0	5.7	10.3	1.4	21.1	41.6	30.8
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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

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