

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: P597167

Luminaire Tested: **MSA-SA4D-835-U-SLL-HSS**

Issue Date: 5/27/2021

Test Information

Test Method: LM-79-08
Report Number: P597167
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-25)
Test Lab: INNOVATIONS CENTER
Issue Date: 5/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: INVUE
Catalog Number: MSA-SA4D-835-U-SLL-HSS
Description: MESA POST TOP DECORATIVE LUMINAIRE. (4) 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: 15821 lumens
Efficiency: N/A
Efficacy: 61.1 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type IV - Short
BUG Rating: B1 - U0 - G3

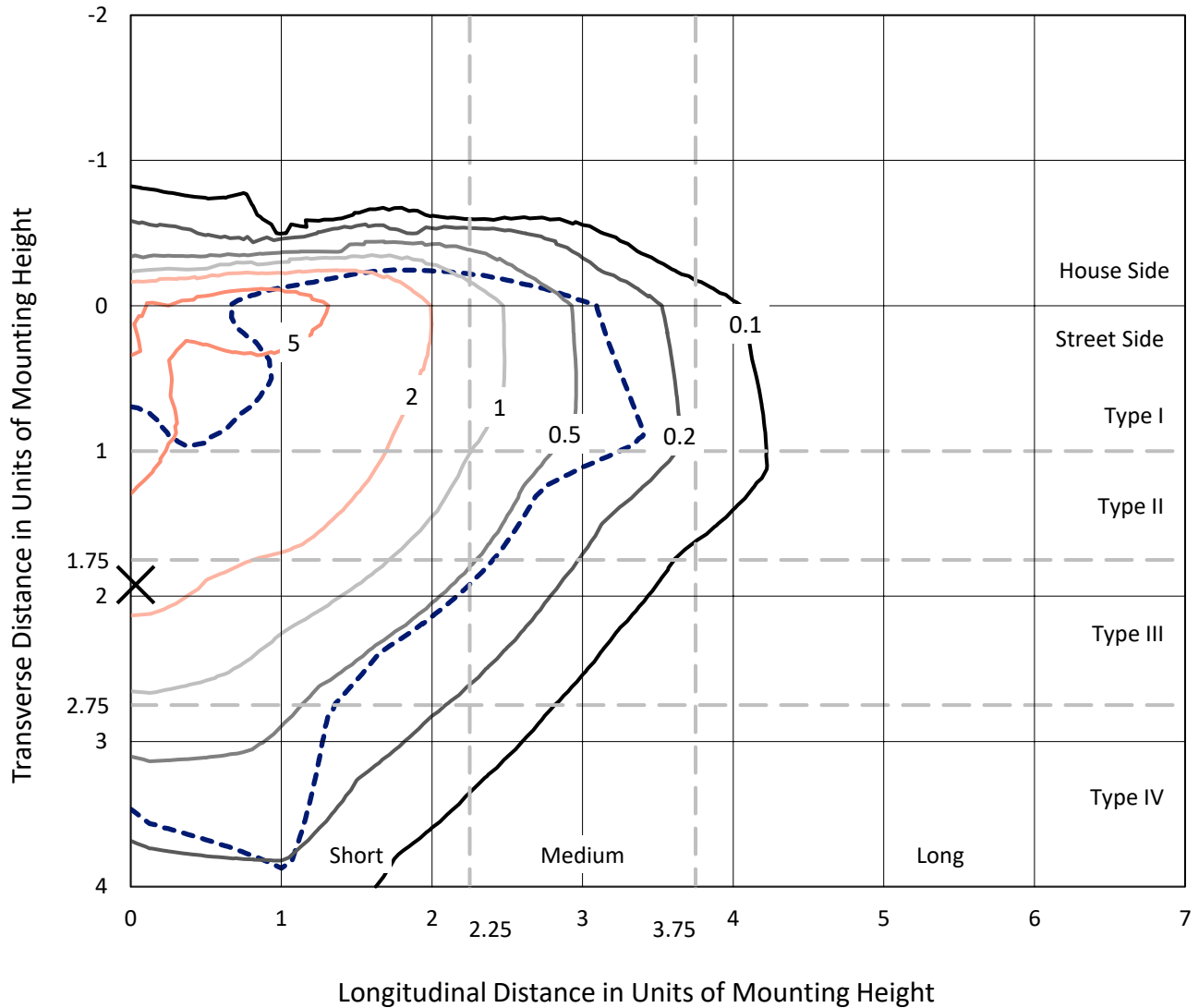
Input Watts (W): 259
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

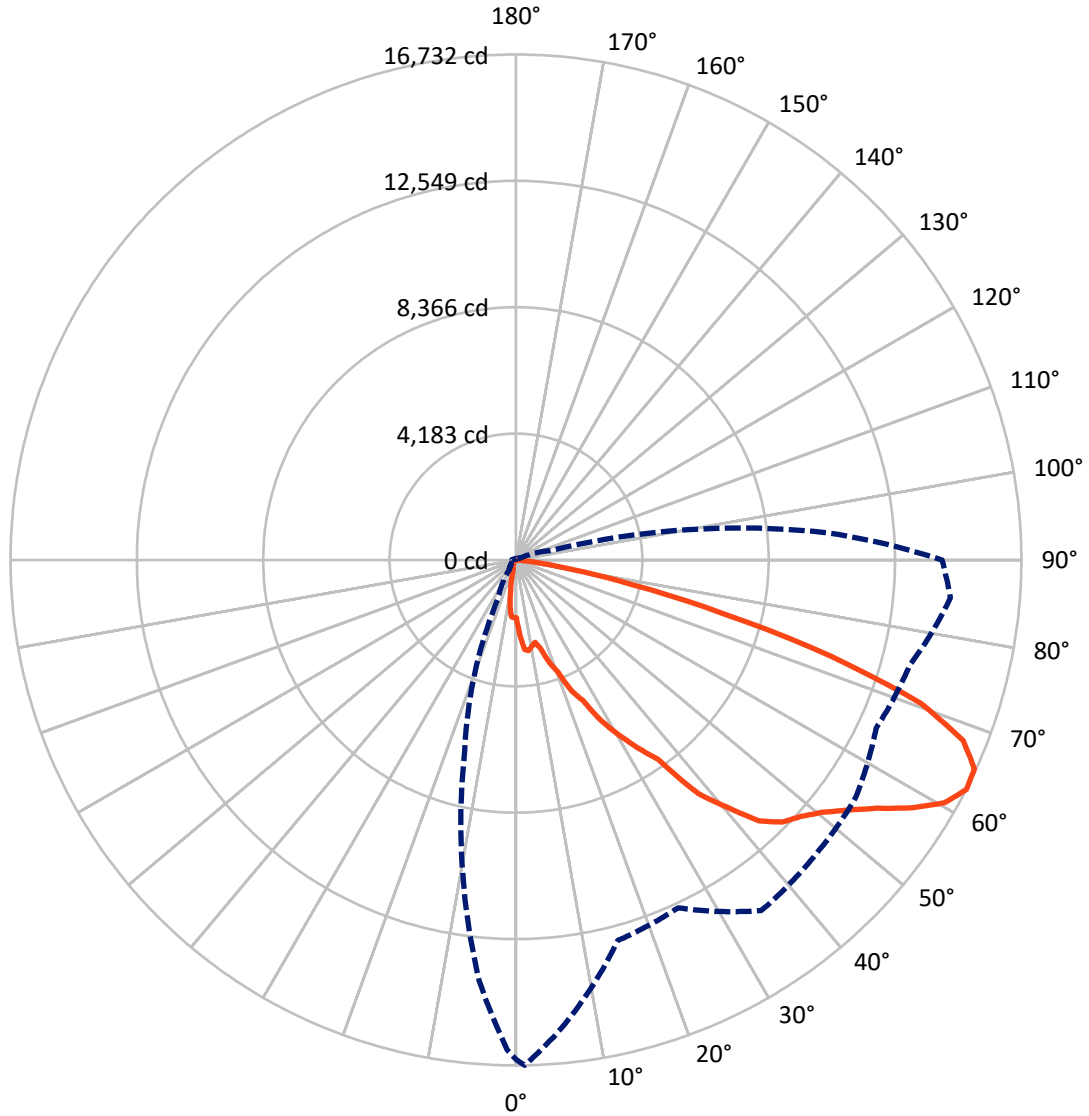
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 8.1 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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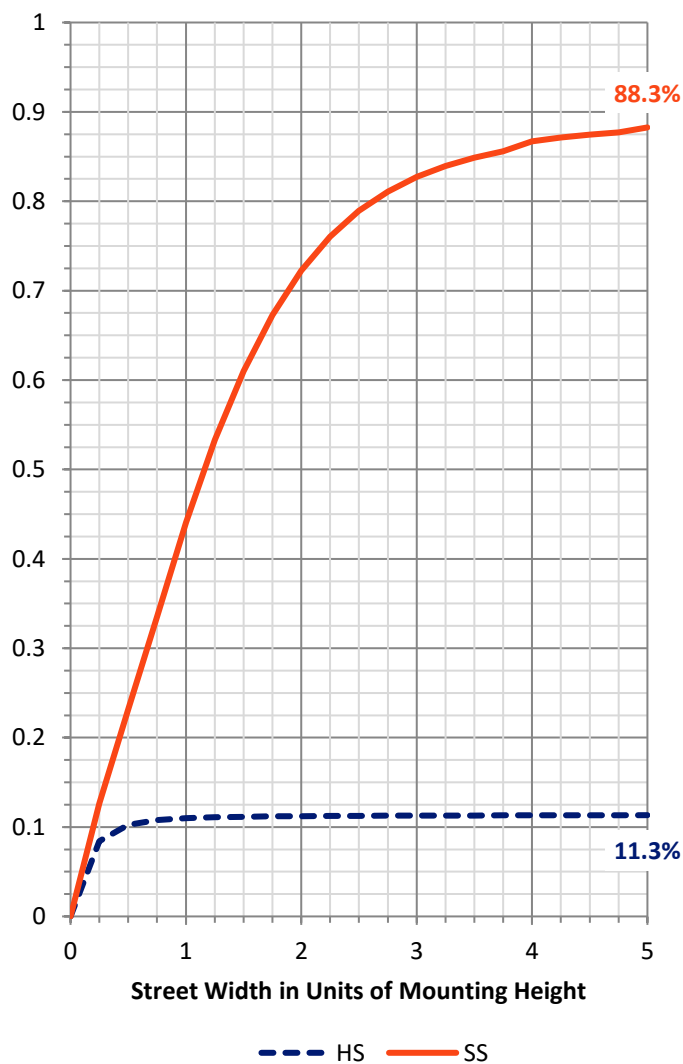
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1809.2	0.0	1809.2
	% Fixture	11.4	0.0	11.4
Street Side	Lumens	14011.8	0.0	14011.8
	% Fixture	88.6	0.0	88.6
Total	Lumens	15821.0	0.0	15821.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	213.0	1.3
10°-20°	556.2	3.5
20°-30°	899.1	5.7
30°-40°	1506.1	9.5
40°-50°	2462.6	15.6
50°-60°	3645.3	23.0
60°-70°	4185.1	26.5
70°-80°	2069.5	13.1
80°-90°	284.1	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°	15821.0	100.0
0°-180°	15821.0	100.0

Coefficient of Utilization



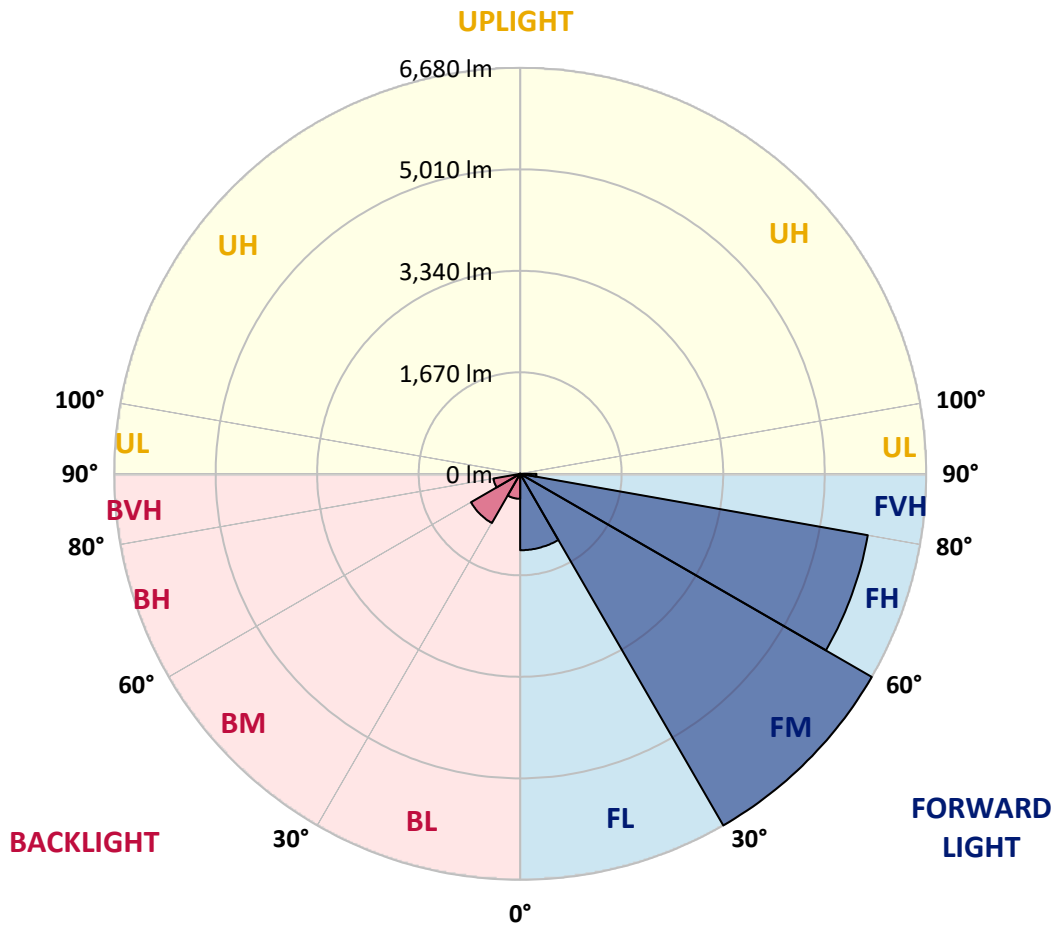
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1256.6	7.9			
FM (30°-60°)	6679.5	42.2			
FH (60°-80°)	5807.3	36.7			G3/7500
FVH (80°-90°)	268.4	1.7			G3/500
BL (0°-30°)	411.6	2.6	B1/500		
BM (30°-60°)	934.5	5.9	B1/1000		
BH (60°-80°)	447.3	2.8	B1/500		G1/500
BVH (80°-90°)	15.7	0.1			G1/100
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

BUG Rating: B1-U0-G3

Type IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	1°	5°	15°	25°	35°	45°	55°	65°	75°	85°
0°	1905.9	1905.9	1905.9	1905.9	1905.9	1905.9	1905.9	1905.9	1905.9	1905.9	1905.9
2.5°	2457.6	2469.4	2414.4	2407.2	2279.1	2438.7	2443.2	2462.2	2345.0	2117.8	2435.1
5°	2940.9	2973.3	2931.0	3119.4	3173.5	3289.8	3076.1	3267.2	3186.1	3208.6	3254.6
7.5°	2998.6	3031.9	3121.2	3436.7	3727.9	3654.9	3631.5	3703.6	3697.3	3530.5	3613.4
10°	2878.7	2906.6	3055.4	3629.7	3756.8	4085.0	4165.2	3999.3	3931.7	3566.6	3407.0
12.5°	2747.9	2794.8	2984.2	3672.9	4054.3	4386.1	4650.2	4414.0	4189.5	3801.0	3654.9
15°	2998.6	3024.7	3322.2	3763.1	4096.7	4325.7	4542.0	4463.6	4429.4	4149.9	3654.9
17.5°	3489.9	3551.2	3766.7	3984.0	4247.2	4385.2	4333.8	4309.4	4222.0	4661.1	4149.0
20°	3839.7	3954.2	4236.4	4330.2	4121.0	4249.9	4218.4	4196.8	4128.2	4945.0	4717.0
22.5°	4597.0	4702.5	4707.9	4741.3	4254.5	4048.9	3996.6	4002.9	4314.0	5029.8	5423.8
25°	5112.7	5148.8	5433.7	5195.7	4618.7	4110.2	3911.0	4000.2	4448.3	5639.2	6088.2
27.5°	5956.6	6042.2	6219.8	5413.9	4836.9	4071.4	3754.1	4078.6	4801.7	5841.2	6826.6
30°	6644.5	6726.5	7012.3	5712.3	5026.2	4263.5	3821.7	4236.4	5021.7	6256.8	7490.1
32.5°	7202.5	7414.4	7739.0	6173.0	5019.0	4484.3	4167.0	4184.1	5292.1	6795.0	8146.5
35°	7915.7	8113.1	8341.2	6490.3	5347.1	4555.6	4268.9	4698.0	5694.2	7357.6	9030.0
37.5°	9523.2	9821.6	9370.8	7290.0	5729.4	5199.3	4671.0	5014.5	6115.3	7931.9	10244.4
40°	10504.0	10755.6	10320.1	7698.4	6391.1	5523.8	5388.6	5564.4	6527.3	8228.5	11159.5
42.5°	11470.5	11802.3	11074.7	8313.3	7019.5	6439.8	6070.2	6211.7	7123.2	8944.4	12189.1
45°	12170.1	12375.7	11237.9	8635.1	7883.2	7483.8	7237.7	7026.7	7954.4	9404.1	12853.5
47.5°	12521.7	12685.8	11559.8	8737.0	8397.1	8588.2	9127.4	8686.5	8690.1	9736.8	13211.4
50°	13008.6	13123.1	11740.1	8858.7	8955.2	10309.3	10581.6	9643.1	9530.4	10070.4	13270.0
52.5°	13692.9	13748.8	12089.9	9179.7	9790.9	11657.1	11755.4	11375.9	10371.5	10690.7	13399.9
55°	14602.5	14504.3	12714.7	9854.0	10662.7	12644.3	12776.0	12445.1	11429.0	11310.0	13801.9
57.5°	15583.4	15470.7	13640.6	10804.3	11608.5	13399.0	13477.4	13503.5	12131.4	11858.2	14485.3
60°	16286.6	16307.4	14806.3	11894.3	12196.3	14121.1	13964.2	13726.2	12840.0	12661.5	14818.0
62.5°	16532.8	16732.0	15714.2	13036.5	12702.9	14166.2	13922.8	13721.7	13157.3	13490.0	14436.6
65°	16331.7	16679.7	15925.1	14040.0	13009.5	13600.9	13347.6	13218.6	13147.4	13828.1	13592.8
67.5°	15532.9	15968.4	15321.1	14049.0	11895.2	11580.5	11879.8	12288.2	12052.0	13547.7	12410.8
70°	13743.3	14220.3	13919.1	13225.0	9909.0	9111.1	9441.1	10058.7	9891.9	12049.3	10671.7
72.5°	10311.1	10924.2	10983.7	11417.3	7866.1	6857.2	6905.0	6887.9	7175.5	9716.1	8327.7
75°	6623.7	7100.7	7745.3	9213.0	5975.5	5006.4	4548.4	4436.6	4973.0	7592.0	5962.0
77.5°	3845.1	3901.9	4199.5	6951.0	4279.7	3607.1	3295.2	3454.8	3642.3	5298.5	3951.5
80°	1839.2	1868.0	1990.6	3576.5	2973.3	3122.1	2881.4	3060.8	2500.9	3045.5	2242.2
82.5°	583.3	589.6	610.4	1757.1	1846.4	2068.2	1325.3	1777.0	1546.2	1841.0	1493.0
85°	97.4	165.9	204.7	507.6	1042.2	697.8	287.6	633.8	862.8	1161.2	678.0
87.5°	0.0	0.0	0.0	9.0	84.7	39.7	6.3	36.1	132.5	258.7	30.7
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°	1905.9	1905.9	1905.9	1905.9	1905.9	1905.9	1905.9	1905.9	1905.9	1905.9	1905.9
2.5°	2527.1	2589.3	2354.9	2144.8	2198.0	2155.6	2091.6	1982.5	1730.1	1915.8	1903.2
5°	3251.9	3136.5	2819.2	2671.3	2491.0	2216.0	2182.7	1971.7	1878.8	1894.2	1880.6
7.5°	3504.4	3297.9	3017.5	2572.1	2149.3	1752.6	1630.9	1493.0	1465.0	1524.5	1563.3
10°	3306.0	3086.9	2841.7	2288.2	1962.7	1676.0	1375.8	1182.8	1078.3	1065.6	1076.5
12.5°	3397.1	3160.9	2656.0	2232.3	1892.4	1632.7	1297.3	1006.1	778.9	796.1	751.0
15°	3460.2	3188.8	2611.8	2115.1	1747.2	1400.1	996.2	705.0	519.3	465.2	432.7
17.5°	3830.7	3443.0	2555.9	1979.8	1544.4	1090.0	625.7	408.4	348.0	329.1	313.7
20°	4306.7	3755.9	2555.0	1837.4	1245.1	681.6	390.4	295.7	281.3	292.1	280.4
22.5°	4860.3	4172.4	2691.1	1659.8	893.4	430.0	303.8	262.4	247.9	256.9	257.8
25°	5417.5	4797.2	2802.0	1491.2	622.1	330.0	270.5	241.6	225.4	233.5	229.0
27.5°	6423.6	5314.7	2776.8	1275.7	458.0	290.3	251.5	226.3	201.9	214.6	213.7
30°	7081.7	6228.0	2875.1	973.7	363.3	254.2	234.4	206.5	180.3	194.7	193.8
32.5°	7868.8	6620.1	2981.5	747.4	302.0	240.7	211.0	183.9	168.6	177.6	175.8
35°	8753.2	7395.5	2785.8	622.1	262.4	217.3	186.6	165.9	152.4	156.9	156.9
37.5°	10315.6	8043.7	2668.6	506.7	244.3	196.5	174.9	149.7	141.5	141.5	146.1
40°	11202.8	9033.6	2318.8	401.2	249.7	181.2	163.2	137.0	126.2	125.3	129.8
42.5°	12356.8	9604.3	2099.7	324.6	226.3	176.7	149.7	124.4	111.8	110.9	115.4
45°	13041.0	9923.4	1791.4	255.1	202.9	205.6	138.8	114.5	95.6	92.0	100.1
47.5°	13472.9	10346.3	1616.5	202.9	176.7	204.7	135.2	99.2	80.2	75.7	82.9
50°	13692.0	10555.4	1582.2	174.0	153.3	183.0	155.1	82.9	68.5	62.2	68.5
52.5°	13920.1	10895.3	1594.9	160.5	135.2	147.0	147.0	71.2	60.4	53.2	57.7
55°	14380.7	11397.5	1566.9	152.4	124.4	111.8	94.7	63.1	55.0	46.9	51.4
57.5°	14946.9	11758.1	1566.9	145.2	115.4	95.6	75.7	58.6	50.5	40.6	44.2
60°	14839.6	11378.6	1489.4	137.9	108.2	89.3	68.5	54.1	46.9	37.0	39.7
62.5°	14103.1	10346.3	1206.3	127.1	101.9	84.7	62.2	51.4	44.2	32.5	35.2
65°	13237.6	9250.0	838.4	115.4	94.7	76.6	55.9	48.7	40.6	28.8	30.7
67.5°	12195.4	7943.6	465.2	103.7	87.5	66.7	51.4	47.8	38.8	26.1	27.9
70°	10386.8	5997.2	249.7	94.7	82.0	61.3	48.7	47.8	38.8	25.2	26.1
72.5°	7797.6	3776.6	146.1	86.5	74.8	56.8	46.0	48.7	37.9	24.3	24.3
75°	5305.7	2292.7	104.6	73.9	66.7	47.8	44.2	46.9	38.8	24.3	22.5
77.5°	3607.1	1611.1	85.6	66.7	60.4	42.4	45.1	46.9	38.8	19.8	15.3
80°	2252.1	831.2	64.9	53.2	52.3	37.0	45.1	40.6	25.2	4.5	0.0
82.5°	1575.0	309.2	37.9	40.6	40.6	26.1	35.2	28.8	14.4	0.0	0.0
85°	660.8	53.2	20.7	28.8	25.2	15.3	27.9	21.6	9.0	0.0	0.0
87.5°	11.7	0.0	8.1	17.1	18.0	9.0	14.4	9.0	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):

	185°	195°	205°	215°	225°	235°	245°	255°	265°	270°	275°
0°	1905.9	1905.9	1905.9	1905.9	1905.9	1905.9	1905.9	1905.9	1905.9	1905.9	1905.9
2.5°	1962.7	1877.0	1696.7	1783.3	1774.3	1813.9	1817.5	1725.6	1923.9	2046.5	2064.6
5°	1882.5	1824.8	1814.8	1765.3	1752.6	1825.7	1786.0	1783.3	1878.8	2018.6	2019.5
7.5°	1564.2	1520.0	1540.8	1483.1	1334.3	1343.3	1356.8	1413.6	1495.7	1587.6	1621.0
10°	1073.8	1188.3	1104.4	1097.2	1081.9	1034.1	996.2	1026.0	1132.4	1217.1	1248.7
12.5°	766.3	784.4	835.7	816.8	843.0	802.4	787.1	879.9	983.6	1070.1	1132.4
15°	448.1	478.7	509.4	574.3	600.4	592.3	639.2	716.7	800.6	840.3	916.9
17.5°	315.5	318.2	324.6	394.9	440.9	458.9	486.8	545.4	579.7	597.7	629.3
20°	275.9	267.8	256.9	296.6	339.9	362.4	354.3	400.3	428.2	446.3	468.8
22.5°	249.7	236.2	229.9	243.4	276.8	296.6	300.2	327.3	369.6	382.3	389.5
25°	225.4	216.4	211.9	219.1	237.1	256.0	259.6	294.8	332.7	338.1	352.5
27.5°	209.2	192.0	193.8	199.2	207.4	230.8	238.0	257.8	312.8	319.2	323.7
30°	192.0	174.0	179.4	184.8	181.2	210.1	220.9	243.4	296.6	306.5	311.9
32.5°	174.9	161.4	160.5	165.9	172.2	187.5	211.0	237.1	285.8	299.3	312.8
35°	156.0	145.2	147.0	147.9	156.0	175.8	192.9	206.5	239.8	247.0	251.5
37.5°	142.4	133.4	131.6	140.6	148.8	164.1	170.4	176.7	220.9	237.1	238.0
40°	126.2	120.8	120.8	127.1	145.2	143.3	151.5	171.3	213.7	230.8	232.6
42.5°	114.5	107.3	109.1	115.4	128.0	119.0	135.2	164.1	211.0	228.1	227.2
45°	96.5	94.7	98.3	103.7	109.1	101.0	126.2	156.9	201.9	224.5	218.2
47.5°	80.2	80.2	84.7	90.2	87.5	90.2	114.5	147.0	196.5	217.3	212.8
50°	65.8	66.7	71.2	80.2	72.1	79.3	102.8	137.0	187.5	210.1	206.5
52.5°	55.9	56.8	59.5	65.8	62.2	72.1	94.7	127.1	178.5	197.4	195.6
55°	48.7	50.5	50.5	54.1	55.9	67.6	85.6	117.2	165.0	185.7	182.1
57.5°	43.3	45.1	44.2	46.9	48.7	59.5	76.6	106.4	151.5	168.6	163.2
60°	38.8	40.6	39.7	43.3	42.4	51.4	66.7	94.7	137.0	150.6	146.1
62.5°	34.3	36.1	36.1	37.9	38.8	43.3	57.7	83.8	122.6	133.4	129.8
65°	30.7	32.5	33.4	32.5	34.3	37.0	48.7	75.7	106.4	117.2	111.8
67.5°	27.9	29.8	31.6	27.9	29.8	30.7	41.5	67.6	93.8	102.8	98.3
70°	27.0	27.9	27.9	24.3	23.4	24.3	36.1	57.7	82.0	91.1	84.7
72.5°	25.2	26.1	25.2	19.8	17.1	18.9	30.7	48.7	69.4	76.6	71.2
75°	23.4	24.3	23.4	16.2	10.8	13.5	25.2	42.4	59.5	63.1	60.4
77.5°	19.8	21.6	21.6	11.7	3.6	8.1	18.9	34.3	49.6	49.6	50.5
80°	1.8	5.4	9.0	6.3	0.0	0.9	6.3	18.0	31.6	30.7	33.4
82.5°	0.0	0.0	0.9	0.0	0.0	0.0	0.0	0.0	10.8	8.1	9.0
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°	1905.9	1905.9	1905.9	1905.9	1905.9	1905.9	1905.9	1905.9	1905.9	1905.9
2.5°	2022.2	1994.2	2029.4	2136.7	2093.4	2101.5	2072.7	2250.3	2451.3	2457.6
5°	2021.3	1996.0	2048.3	2043.8	2167.3	2301.7	2431.5	2641.6	2939.1	2940.9
7.5°	1605.7	1755.3	1794.1	1782.4	1941.1	2125.9	2326.0	2728.1	2972.4	2998.6
10°	1447.9	1512.8	1592.2	1621.0	1686.8	1862.6	2088.9	2544.2	2818.3	2878.7
12.5°	1255.0	1462.3	1567.8	1772.5	1810.3	1835.6	2192.6	2588.4	2755.2	2747.9
15°	1039.5	1219.8	1386.6	1636.3	1739.1	2004.2	2285.4	2803.8	2903.0	2998.6
17.5°	735.7	871.8	1127.8	1390.2	1703.9	1992.4	2541.5	3188.8	3376.3	3489.9
20°	492.3	558.1	789.8	1136.9	1534.5	1821.1	2646.1	3536.8	3741.5	3839.7
22.5°	399.4	430.9	550.9	833.0	1310.9	1813.0	2688.4	3916.4	4466.3	4597.0
25°	351.6	373.2	437.3	616.7	1088.2	1777.0	2922.9	4343.7	5007.3	5112.7
27.5°	307.4	339.9	387.7	508.5	933.1	1751.7	3041.9	5061.3	5852.9	5956.6
30°	293.9	333.6	379.6	463.4	824.9	1654.4	3231.2	5708.7	6459.7	6644.5
32.5°	317.3	330.9	353.4	424.6	741.1	1551.6	3563.9	6482.2	6961.8	7202.5
35°	251.5	275.9	315.5	389.5	705.9	1546.2	3752.3	6979.9	7766.9	7915.7
37.5°	246.1	268.7	320.1	379.6	748.3	1587.6	4031.8	7999.5	9218.4	9523.2
40°	238.9	267.8	316.4	375.0	748.3	1628.2	4210.3	8815.4	10194.8	10504.0
42.5°	236.2	273.2	315.5	394.0	724.9	1650.8	4479.8	9629.5	11226.2	11470.5
45°	234.4	278.6	318.2	416.5	719.4	1724.7	4632.2	10025.3	11889.7	12170.1
47.5°	229.9	278.6	355.2	403.0	689.7	1717.5	4829.6	10612.2	12285.5	12521.7
50°	226.3	280.4	402.1	377.8	694.2	1673.3	5097.4	11163.1	12840.0	13008.6
52.5°	218.2	286.7	394.9	342.6	680.7	1668.8	5496.8	11946.5	13569.3	13692.9
55°	200.1	278.6	357.0	299.3	632.9	1617.4	6026.0	12965.3	14580.9	14602.5
57.5°	183.9	258.7	298.4	275.0	530.1	1623.7	6482.2	13902.9	15482.5	15583.4
60°	167.7	268.7	231.7	256.0	439.1	1508.3	6703.1	14261.7	16138.8	16286.6
62.5°	152.4	247.9	197.4	235.3	391.3	1401.0	6549.8	13973.2	16222.6	16532.8
65°	135.2	172.2	166.8	211.0	395.8	1250.5	6037.7	13128.5	15904.4	16331.7
67.5°	116.3	135.2	147.0	182.1	423.7	1121.5	5159.6	11772.5	15048.8	15532.9
70°	101.9	121.7	128.0	159.6	440.9	1036.8	4071.4	9891.0	13296.2	13743.3
72.5°	84.7	112.7	114.5	139.7	424.6	952.9	2901.2	7100.7	10096.5	10311.1
75°	73.0	93.8	103.7	117.2	357.0	711.3	1598.5	4395.1	6383.9	6623.7
77.5°	65.8	71.2	78.4	81.1	151.5	370.5	550.0	2710.1	3574.7	3845.1
80°	50.5	55.9	54.1	55.9	82.9	128.0	209.2	1270.3	1688.6	1839.2
82.5°	16.2	27.0	29.8	25.2	54.1	63.1	60.4	439.1	549.0	583.3
85°	3.6	9.9	4.5	0.0	18.0	32.5	4.5	66.7	131.6	97.4
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

(END OF REPORT)