

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: McGRAW-EDISON

Report Number: P228042

Luminaire Tested: **ISC-AF-1200-LED-E1-T4W-7050**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P228042
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P29757)
Test Lab: INNOVATION CENTER-P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: MCGRAW-EDISON
Catalog Number: ISC-AF-1200-LED-E1-T4W-7050
Description: IMPACT ELITE LED CYLINDER LUMINAIRE
LIGHT SQUARE WITH ACCULED OPTICS-TYPE IV WIDE
Light Source: (16) 5000K CCT, 70 CRI LEDs
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6581 lumens
Efficiency: N/A
Efficacy: 99.7 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')
IES Classification: Type IV - Medium - Non-Cutoff
BUG Rating: B1 - U0 - G2

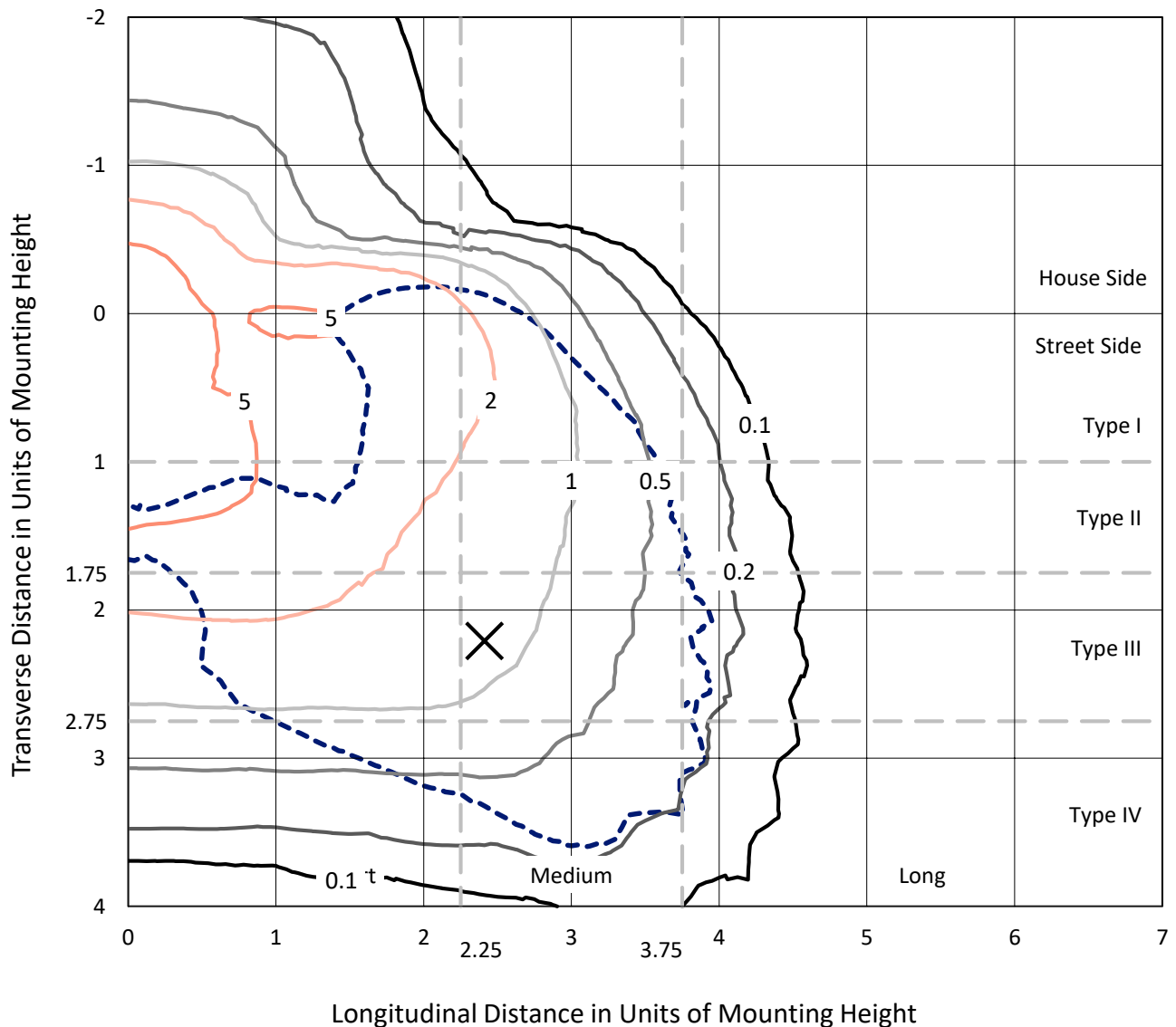
Input Watts (W): 66
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

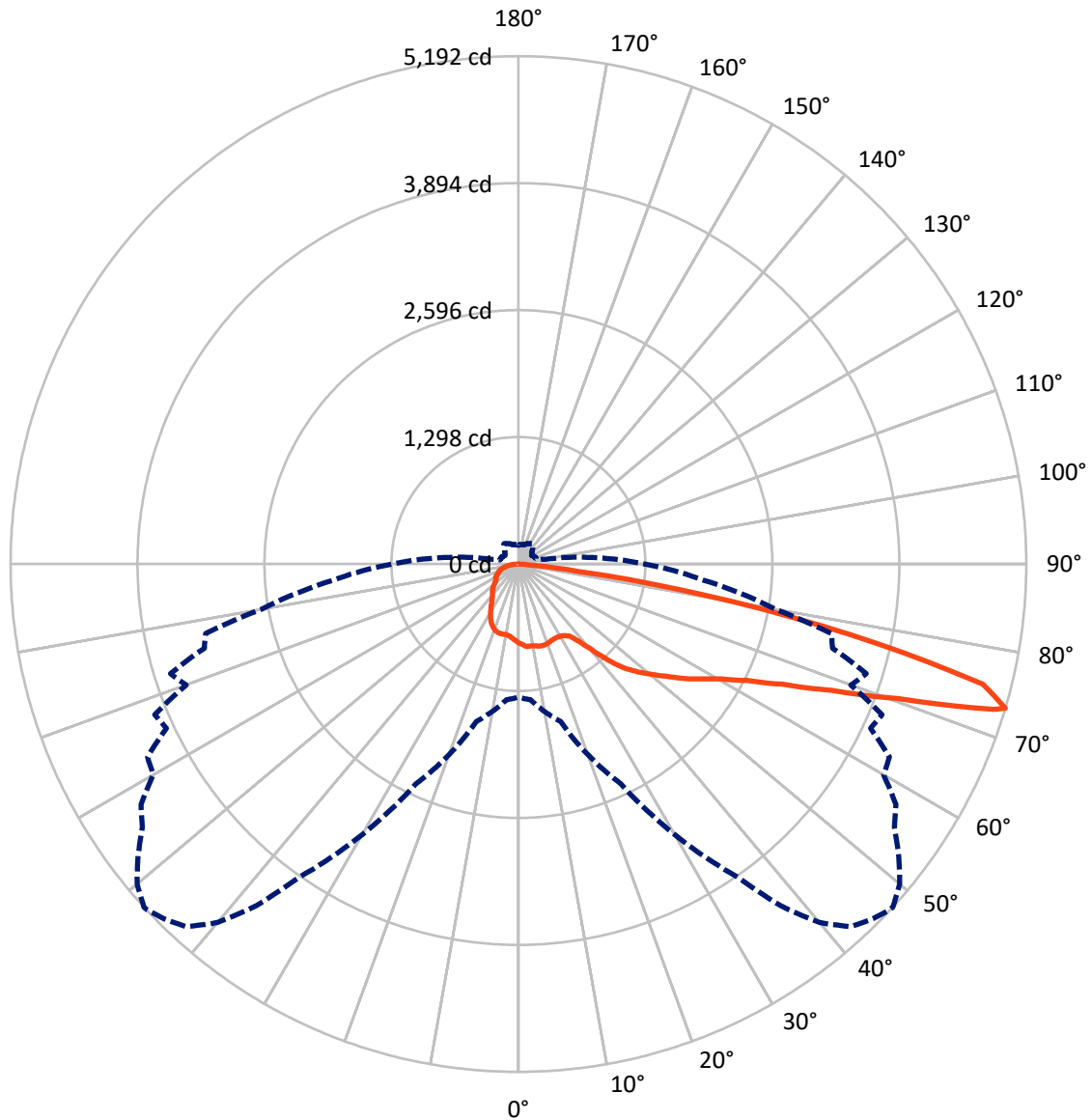
× Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 9.3 fc
 Type IV - Medium - Non-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 47.5-Deg Lateral - - - Horizontal Cone Through 73-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1314.8	0.0	1314.8
	% Fixture	20.0	0.0	20.0
Street Side	Lumens	5266.2	0.0	5266.2
	% Fixture	80.0	0.0	80.0
Total	Lumens	6581.0	0.0	6581.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	76.9	1.2
10°-20°	229.0	3.5
20°-30°	352.0	5.3
30°-40°	513.5	7.8
40°-50°	846.6	12.9
50°-60°	1325.6	20.1
60°-70°	1798.2	27.3
70°-80°	1331.6	20.2
80°-90°	107.6	1.6
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°	6581.0	100.0
0°-180°	6581.0	100.0



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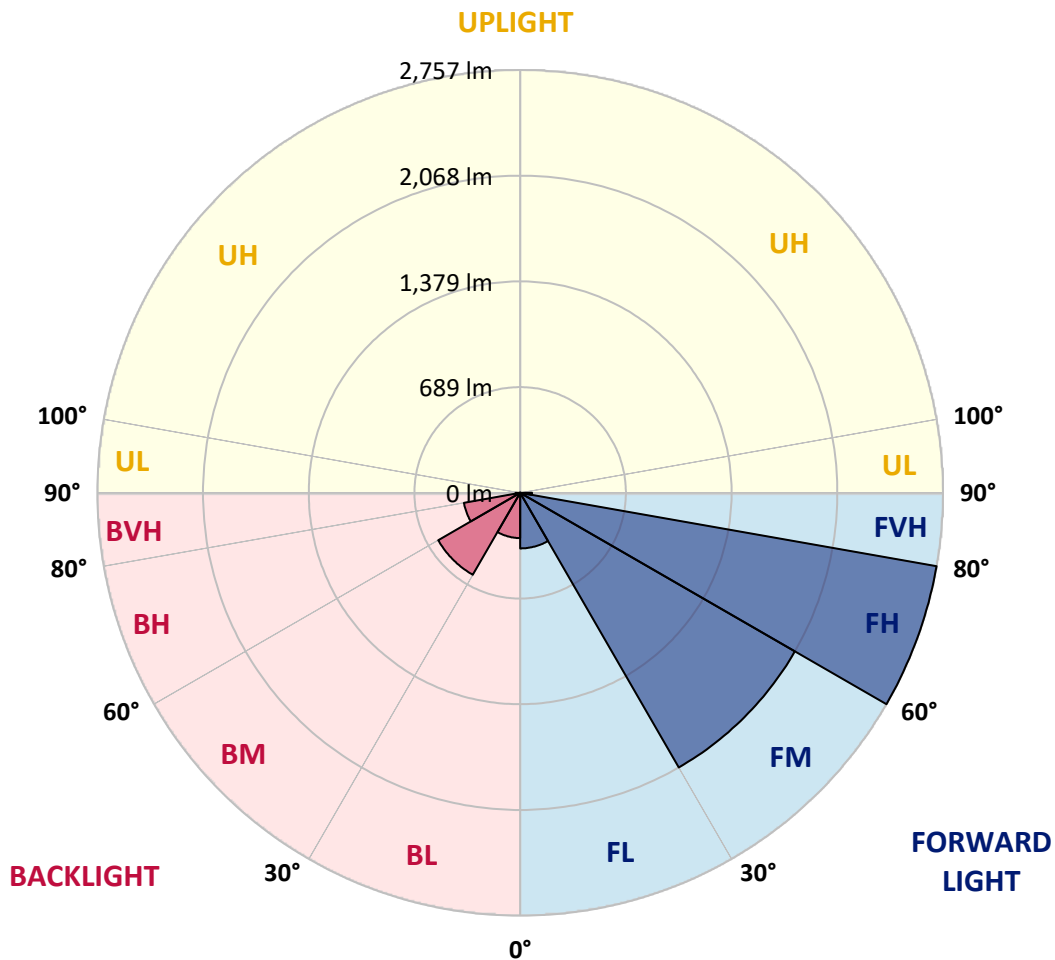
CATALOG NUMBER: ISC-AF-1200-LED-E1-T4W-7050

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	362.8	5.5			
FM	(30°-60°)	2068.3	31.4			
FH	(60°-80°)	2757.5	41.9			G2/5000
FVH	(80°-90°)	77.6	1.2			G1/100
BL	(0°-30°)	295.1	4.5	B1/500		
BM	(30°-60°)	617.4	9.4	B1/1000		
BH	(60°-80°)	372.3	5.7	B1/500		G1/500
BVH	(80°-90°)	30.0	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-G2

Type IV Medium





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	37.5°	40°	42.5°	45°	47°	47.5°
0°	808.1	808.1	808.1	808.1	808.1	808.1	808.1	808.1	808.1	808.1	808.1
2.5°	855.9	853.8	847.3	845.1	838.6	834.2	832.0	829.9	836.4	832.0	825.5
5°	910.3	905.9	897.2	884.2	871.1	862.5	860.3	855.9	855.9	851.6	847.3
7.5°	949.4	947.2	934.1	914.6	892.9	877.7	869.0	862.5	864.6	860.3	847.3
10°	986.3	981.9	960.2	936.3	903.7	886.4	875.5	864.6	873.3	866.8	849.4
12.5°	1014.5	1010.2	979.8	949.4	912.4	892.9	882.0	875.5	884.2	879.8	860.3
15°	1029.7	1025.4	995.0	958.0	918.9	897.2	892.9	888.5	895.0	886.4	869.0
17.5°	1021.0	1021.0	992.8	953.7	921.1	899.4	892.9	888.5	897.2	888.5	869.0
20°	988.5	992.8	973.3	932.0	908.1	892.9	886.4	877.7	886.4	877.7	864.6
22.5°	947.2	951.5	940.7	903.7	886.4	875.5	873.3	864.6	871.1	864.6	851.6
25°	910.3	910.3	905.9	873.3	871.1	862.5	864.6	860.3	864.6	855.9	847.3
27.5°	912.4	912.4	895.0	862.5	860.3	860.3	860.3	860.3	862.5	855.9	847.3
30°	1040.6	1044.9	995.0	903.7	871.1	866.8	869.0	866.8	869.0	866.8	855.9
32.5°	1233.9	1233.9	1186.2	1044.9	929.8	901.6	890.7	888.5	882.0	879.8	871.1
35°	1425.1	1422.9	1375.2	1218.7	1073.2	1018.9	984.1	951.5	936.3	921.1	905.9
37.5°	1585.9	1579.4	1572.8	1394.7	1242.6	1179.6	1138.4	1090.6	1060.2	1034.1	999.3
40°	1735.8	1746.6	1770.5	1557.6	1412.1	1353.4	1312.2	1251.3	1220.9	1188.3	1147.0
42.5°	1942.2	1957.4	1959.5	1733.6	1566.3	1527.2	1494.6	1449.0	1416.4	1377.3	1340.4
45°	2142.0	2144.2	2150.7	1922.6	1755.3	1705.4	1681.5	1638.0	1596.7	1546.8	1516.4
47.5°	2278.9	2272.4	2300.6	2139.9	1976.9	1920.4	1885.7	1820.5	1757.5	1694.5	1648.9
50°	2446.2	2439.7	2439.7	2387.5	2233.3	2168.1	2107.3	1985.6	1918.3	1840.1	1774.9
52.5°	2593.9	2570.0	2585.2	2615.6	2502.7	2420.1	2313.6	2176.8	2087.7	1992.1	1909.6
55°	2795.9	2672.1	2706.9	2813.3	2769.9	2641.7	2500.5	2354.9	2252.8	2144.2	2068.2
57.5°	2726.4	2641.7	2743.8	2930.6	2928.5	2809.0	2689.5	2511.3	2409.2	2307.1	2213.7
60°	2476.6	2520.0	2741.6	3011.0	3021.9	2928.5	2830.7	2665.6	2585.2	2478.8	2385.3
62.5°	2283.2	2346.2	2650.4	3004.5	3128.3	3041.4	2961.0	2863.3	2806.8	2717.7	2622.1
65°	2272.4	2309.3	2604.8	2998.0	3278.2	3232.6	3195.7	3150.0	3139.2	3074.0	2963.2
67.5°	2376.7	2411.4	2683.0	3165.2	3499.8	3480.3	3534.6	3525.9	3573.7	3541.1	3449.8
70°	2172.4	2192.0	2526.5	3223.9	4006.0	4092.9	4214.5	4208.0	4310.1	4231.9	4125.5
72.5°	1525.1	1564.2	1859.6	2663.4	4016.8	4481.7	4764.2	5003.1	5113.9	5133.5	5083.5
73°	1362.1	1392.5	1666.3	2480.9	3908.2	4403.5	4783.7	5029.2	5127.0	5187.8	5192.1
75°	473.6	488.8	727.8	1503.3	3124.0	3843.0	4331.8	4553.4	4529.5	4707.7	4903.2
77.5°	152.1	154.2	189.0	388.9	1507.7	2385.3	2930.6	3134.8	3017.5	3210.9	3471.6
80°	93.4	97.8	123.8	176.0	395.4	723.4	1225.3	1533.7	1470.7	1651.1	1929.1
82.5°	56.5	58.7	76.0	108.6	158.6	176.0	230.3	312.8	384.5	462.7	606.1
85°	26.1	28.2	36.9	50.0	65.2	67.3	65.2	60.8	69.5	80.4	93.4
87.5°	0.0	0.0	2.2	4.3	2.2	0.0	0.0	0.0	0.0	2.2	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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CATALOG NUMBER: ISC-AF-1200-LED-E1-T4W-7050

CANDELA DISTRIBUTION (continued):

	50°	52.5°	55°	57.5°	60°	62.5°	65°	67.5°	70°	72.5°	75°
0°	808.1	808.1	808.1	808.1	808.1	808.1	808.1	808.1	808.1	808.1	808.1
2.5°	832.0	825.5	825.5	816.8	821.2	812.5	816.8	808.1	812.5	801.6	808.1
5°	845.1	834.2	834.2	821.2	823.4	808.1	814.7	797.3	806.0	786.4	799.5
7.5°	851.6	832.0	840.7	816.8	827.7	801.6	814.7	786.4	803.8	773.4	795.1
10°	860.3	832.0	847.3	821.2	834.2	803.8	821.2	786.4	808.1	771.2	790.8
12.5°	873.3	842.9	855.9	825.5	842.9	808.1	825.5	790.8	812.5	771.2	795.1
15°	882.0	851.6	864.6	834.2	847.3	808.1	829.9	788.6	812.5	769.0	795.1
17.5°	879.8	851.6	864.6	829.9	845.1	806.0	827.7	786.4	808.1	762.5	790.8
20°	871.1	847.3	855.9	825.5	838.6	799.5	819.0	777.7	801.6	756.0	784.3
22.5°	860.3	836.4	847.3	819.0	832.0	792.9	810.3	773.4	797.3	751.7	777.7
25°	853.8	834.2	840.7	812.5	829.9	795.1	812.5	771.2	797.3	751.7	782.1
27.5°	851.6	834.2	847.3	821.2	836.4	806.0	823.4	786.4	808.1	760.4	790.8
30°	864.6	849.4	860.3	838.6	851.6	821.2	838.6	803.8	825.5	779.9	814.7
32.5°	879.8	864.6	875.5	855.9	875.5	845.1	866.8	832.0	858.1	812.5	845.1
35°	912.4	895.0	910.3	888.5	910.3	886.4	910.3	873.3	905.9	860.3	895.0
37.5°	997.2	949.4	964.6	940.7	962.4	932.0	973.3	936.3	973.3	929.8	977.6
40°	1131.8	1047.1	1062.3	1012.4	1044.9	999.3	1049.3	1021.0	1071.0	1016.7	1077.5
42.5°	1307.8	1227.4	1212.2	1136.2	1164.4	1110.1	1160.1	1110.1	1177.5	1125.3	1201.4
45°	1468.6	1383.8	1359.9	1286.1	1305.6	1233.9	1296.9	1227.4	1316.5	1255.7	1351.3
47.5°	1601.1	1501.2	1481.6	1396.9	1431.6	1364.3	1442.5	1368.6	1477.3	1416.4	1527.2
50°	1722.7	1598.9	1594.6	1503.3	1562.0	1494.6	1605.4	1555.5	1661.9	1601.1	1731.4
52.5°	1861.8	1705.4	1727.1	1644.5	1738.0	1681.5	1809.6	1738.0	1877.0	1811.8	1955.2
55°	2009.5	1844.4	1900.9	1850.9	1961.7	1924.8	2033.4	1968.2	2105.1	2039.9	2192.0
57.5°	2172.4	2031.2	2131.2	2107.3	2205.0	2159.4	2281.1	2222.4	2359.3	2305.0	2457.0
60°	2385.3	2291.9	2389.7	2387.5	2472.2	2470.1	2548.3	2513.5	2643.9	2620.0	2759.0
62.5°	2661.2	2587.4	2691.7	2663.4	2765.5	2748.1	2843.7	2843.7	2937.1	2969.7	3108.8
65°	3032.7	2935.0	3058.8	3015.3	3117.5	3121.8	3182.6	3193.5	3306.5	3343.4	3462.9
67.5°	3536.7	3423.8	3521.5	3439.0	3556.3	3549.8	3601.9	3623.6	3638.8	3727.9	3740.9
70°	4262.3	4092.9	4181.9	4069.0	4090.7	4105.9	4008.2	4079.8	3906.0	4047.3	3856.1
72.5°	5046.6	4853.2	4699.0	4586.0	4362.3	4329.7	4045.1	4105.9	3736.6	3858.3	3471.6
73°	5087.9	4901.0	4692.5	4575.2	4310.1	4275.4	3971.2	4023.4	3614.9	3730.1	3323.8
75°	4625.1	4675.1	4173.3	4221.1	3760.5	3814.8	3339.0	3399.9	2898.0	2984.9	2461.4
77.5°	3117.5	3284.7	2722.1	2932.8	2361.4	2572.2	1927.0	1946.5	1420.8	1327.4	901.6
80°	1544.6	1688.0	1197.0	1307.8	877.7	862.5	525.7	436.7	371.5	380.2	391.0
82.5°	445.4	501.8	310.7	308.5	219.4	208.6	208.6	221.6	225.9	252.0	245.5
85°	84.7	102.1	89.1	119.5	106.4	117.3	108.6	126.0	117.3	145.6	126.0
87.5°	2.2	0.0	2.2	6.5	6.5	15.2	10.9	17.4	17.4	30.4	28.2
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):

	77.5°	80°	85°	90°	95°	100°	102.5°	105°	107.5°	110°	112.5°
0°	808.1	808.1	808.1	808.1	808.1	808.1	808.1	808.1	808.1	808.1	808.1
2.5°	799.5	810.3	806.0	801.6	797.3	795.1	786.4	790.8	779.9	788.6	779.9
5°	782.1	795.1	788.6	779.9	775.6	771.2	756.0	766.9	749.5	764.7	751.7
7.5°	762.5	784.3	777.7	769.0	760.4	756.0	725.6	749.5	723.4	745.1	723.4
10°	756.0	779.9	771.2	760.4	751.7	747.3	710.4	738.6	710.4	734.3	706.0
12.5°	751.7	779.9	766.9	756.0	747.3	740.8	699.5	734.3	697.4	732.1	699.5
15°	747.3	779.9	762.5	749.5	740.8	734.3	690.8	729.9	688.7	727.8	690.8
17.5°	743.0	773.4	758.2	743.0	734.3	729.9	682.1	723.4	680.0	723.4	686.5
20°	736.5	766.9	749.5	734.3	725.6	719.1	671.3	714.7	669.1	712.6	671.3
22.5°	727.8	760.4	745.1	729.9	721.3	710.4	658.2	703.9	656.1	699.5	660.4
25°	729.9	764.7	745.1	729.9	716.9	706.0	649.6	699.5	645.2	688.7	645.2
27.5°	740.8	771.2	751.7	738.6	721.3	708.2	649.6	695.2	640.9	677.8	632.2
30°	762.5	792.9	775.6	756.0	740.8	723.4	660.4	697.4	640.9	664.8	619.1
32.5°	799.5	827.7	810.3	795.1	777.7	751.7	682.1	708.2	645.2	656.1	608.3
35°	847.3	882.0	873.3	862.5	840.7	795.1	719.1	723.4	653.9	647.4	593.1
37.5°	925.5	973.3	971.1	968.9	945.0	862.5	760.4	753.8	662.6	640.9	573.5
40°	1027.6	1084.0	1099.3	1114.5	1064.5	942.8	808.1	784.3	666.9	627.8	543.1
42.5°	1147.0	1223.1	1268.7	1296.9	1205.7	1031.9	862.5	819.0	666.9	608.3	508.4
45°	1294.8	1383.8	1470.7	1501.2	1362.1	1127.5	918.9	847.3	658.2	577.9	462.7
47.5°	1475.1	1579.4	1698.8	1714.1	1531.6	1229.6	958.0	866.8	630.0	536.6	421.5
50°	1675.0	1801.0	1976.9	1966.1	1711.9	1336.1	984.1	879.8	580.0	488.8	371.5
52.5°	1898.7	2057.3	2307.1	2257.2	1931.3	1468.6	1008.0	897.2	519.2	432.3	321.5
55°	2179.0	2368.0	2680.8	2574.3	2174.6	1614.1	1042.8	899.4	438.8	365.0	284.6
57.5°	2480.9	2683.0	3082.7	2889.3	2402.7	1727.1	1027.6	829.9	358.5	308.5	256.3
60°	2843.7	3089.2	3484.6	3182.6	2593.9	1766.2	921.1	684.3	306.3	278.1	243.3
62.5°	3250.0	3493.3	3814.8	3386.8	2702.5	1701.0	684.3	473.6	262.9	247.7	223.8
65°	3682.3	3912.6	3973.4	3404.2	2630.8	1414.3	423.6	310.7	228.1	221.6	206.4
67.5°	4079.8	4101.6	3823.5	3121.8	2283.2	986.3	288.9	247.7	210.7	208.6	199.9
70°	4181.9	3806.1	3178.3	2431.0	1648.9	586.6	234.6	215.1	202.0	202.0	195.5
72.5°	3493.3	2898.0	2124.6	1472.9	899.4	312.8	199.9	195.5	191.2	191.2	186.8
73°	3276.0	2669.9	1903.1	1286.1	760.4	280.2	195.5	191.2	189.0	186.8	184.7
75°	2176.8	1677.1	1079.7	651.7	354.1	202.0	173.8	173.8	171.6	173.8	171.6
77.5°	838.6	632.2	417.1	280.2	202.0	158.6	147.7	149.9	147.7	152.1	149.9
80°	369.3	365.0	275.9	197.7	147.7	119.5	119.5	119.5	121.7	123.8	123.8
82.5°	252.0	212.9	162.9	121.7	89.1	86.9	89.1	89.1	91.2	93.4	91.2
85°	139.0	117.3	86.9	54.3	47.8	58.7	58.7	58.7	56.5	56.5	54.3
87.5°	43.4	32.6	23.9	6.5	10.9	10.9	15.2	13.0	13.0	15.2	15.2
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):

	115°	117.5°	120°	122.5°	125°	127.5°	130°	135°	145°	155°	165°
0°	808.1	808.1	808.1	808.1	808.1	808.1	808.1	808.1	808.1	808.1	808.1
2.5°	788.6	782.1	788.6	777.7	786.4	777.7	784.3	784.3	782.1	782.1	782.1
5°	762.5	751.7	762.5	756.0	762.5	753.8	760.4	762.5	764.7	771.2	769.0
7.5°	743.0	721.3	745.1	723.4	743.0	723.4	740.8	743.0	749.5	758.2	764.7
10°	734.3	706.0	734.3	708.2	732.1	710.4	732.1	734.3	740.8	751.7	762.5
12.5°	729.9	699.5	729.9	703.9	729.9	708.2	729.9	736.5	740.8	749.5	762.5
15°	725.6	695.2	729.9	701.7	729.9	708.2	732.1	736.5	743.0	751.7	762.5
17.5°	723.4	688.7	725.6	699.5	725.6	703.9	729.9	729.9	738.6	749.5	756.0
20°	714.7	682.1	714.7	688.7	714.7	695.2	716.9	716.9	725.6	729.9	740.8
22.5°	701.7	666.9	697.4	673.5	697.4	677.8	695.2	695.2	701.7	708.2	714.7
25°	682.1	649.6	675.6	653.9	671.3	653.9	666.9	664.8	669.1	673.5	677.8
27.5°	660.4	627.8	649.6	625.7	636.5	619.1	627.8	623.5	625.7	627.8	630.0
30°	636.5	603.9	614.8	593.1	595.2	577.9	582.2	575.7	573.5	571.4	567.0
32.5°	610.5	575.7	575.7	554.0	549.6	534.4	534.4	525.7	519.2	510.5	501.8
35°	577.9	547.5	532.2	514.9	506.2	491.0	488.8	477.9	462.7	447.5	438.8
37.5°	545.3	510.5	488.8	471.4	462.7	451.9	449.7	441.0	423.6	406.2	393.2
40°	501.8	467.1	443.2	436.7	430.1	421.5	423.6	412.8	395.4	375.8	365.0
42.5°	458.4	428.0	408.4	406.2	401.9	399.7	401.9	393.2	373.7	356.3	343.2
45°	421.5	391.0	371.5	369.3	367.1	375.8	378.0	375.8	354.1	336.7	319.3
47.5°	384.5	347.6	334.6	330.2	332.4	345.4	349.8	356.3	336.7	317.2	293.3
50°	341.1	306.3	302.0	297.6	299.8	310.7	321.5	334.6	317.2	288.9	256.3
52.5°	302.0	271.6	273.7	269.4	273.7	282.4	291.1	312.8	291.1	262.9	247.7
55°	271.6	247.7	252.0	247.7	252.0	262.9	269.4	286.8	286.8	280.2	267.2
57.5°	249.8	232.5	236.8	232.5	239.0	247.7	254.2	291.1	312.8	295.5	269.4
60°	236.8	221.6	223.8	219.4	223.8	236.8	249.8	293.3	328.0	293.3	273.7
62.5°	217.2	204.2	202.0	202.0	206.4	228.1	234.6	273.7	323.7	291.1	275.9
65°	204.2	193.3	191.2	189.0	193.3	208.6	215.1	254.2	312.8	275.9	249.8
67.5°	197.7	189.0	184.7	180.3	184.7	197.7	204.2	239.0	295.5	262.9	234.6
70°	191.2	182.5	180.3	176.0	178.1	186.8	195.5	219.4	280.2	247.7	219.4
72.5°	182.5	173.8	171.6	165.1	167.3	176.0	180.3	206.4	260.7	232.5	204.2
73°	180.3	171.6	169.5	162.9	165.1	171.6	176.0	202.0	256.3	230.3	202.0
75°	169.5	160.8	158.6	154.2	156.4	156.4	160.8	184.7	243.3	217.2	189.0
77.5°	149.9	143.4	141.2	136.9	134.7	132.5	139.0	162.9	221.6	195.5	152.1
80°	123.8	117.3	115.1	106.4	106.4	106.4	115.1	139.0	165.1	141.2	117.3
82.5°	91.2	86.9	86.9	80.4	78.2	76.0	82.6	95.6	130.3	110.8	91.2
85°	54.3	52.1	54.3	47.8	50.0	47.8	54.3	67.3	71.7	56.5	43.4
87.5°	13.0	15.2	15.2	15.2	13.0	13.0	10.9	8.7	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):

	175°	180°
0°	808.1	808.1
2.5°	779.9	777.7
5°	769.0	769.0
7.5°	764.7	764.7
10°	766.9	766.9
12.5°	766.9	771.2
15°	773.4	771.2
17.5°	766.9	766.9
20°	749.5	753.8
22.5°	725.6	725.6
25°	686.5	688.7
27.5°	634.4	638.7
30°	569.2	573.5
32.5°	495.3	499.7
35°	436.7	438.8
37.5°	397.6	397.6
40°	365.0	365.0
42.5°	334.6	332.4
45°	304.1	299.8
47.5°	273.7	271.6
50°	247.7	247.7
52.5°	252.0	252.0
55°	271.6	271.6
57.5°	273.7	271.6
60°	297.6	295.5
62.5°	310.7	317.2
65°	271.6	262.9
67.5°	258.5	245.5
70°	232.5	212.9
72.5°	206.4	195.5
73°	199.9	191.2
75°	178.1	173.8
77.5°	134.7	132.5
80°	113.0	110.8
82.5°	76.0	71.7
85°	32.6	30.4
87.5°	0.0	0.0
90°	0.0	0.0

(END OF REPORT)