

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: P227966

Luminaire Tested: **ISS-AF-450-LED-E1-T4W-8030**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P227966
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: ISS-AF-450-LED-E1-T4W-8030
Description: IMPACT ELITE LED QUATER SPHERE LUMINAIRE
LIGHT SQUARE WITH ACCULED OPTICS-TYPE IV WIDE
Light Source: (16) 3000K CCT, 80 CRI LEDs
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2445 lumens
Efficiency: N/A
Efficacy: 96.6 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 - G1

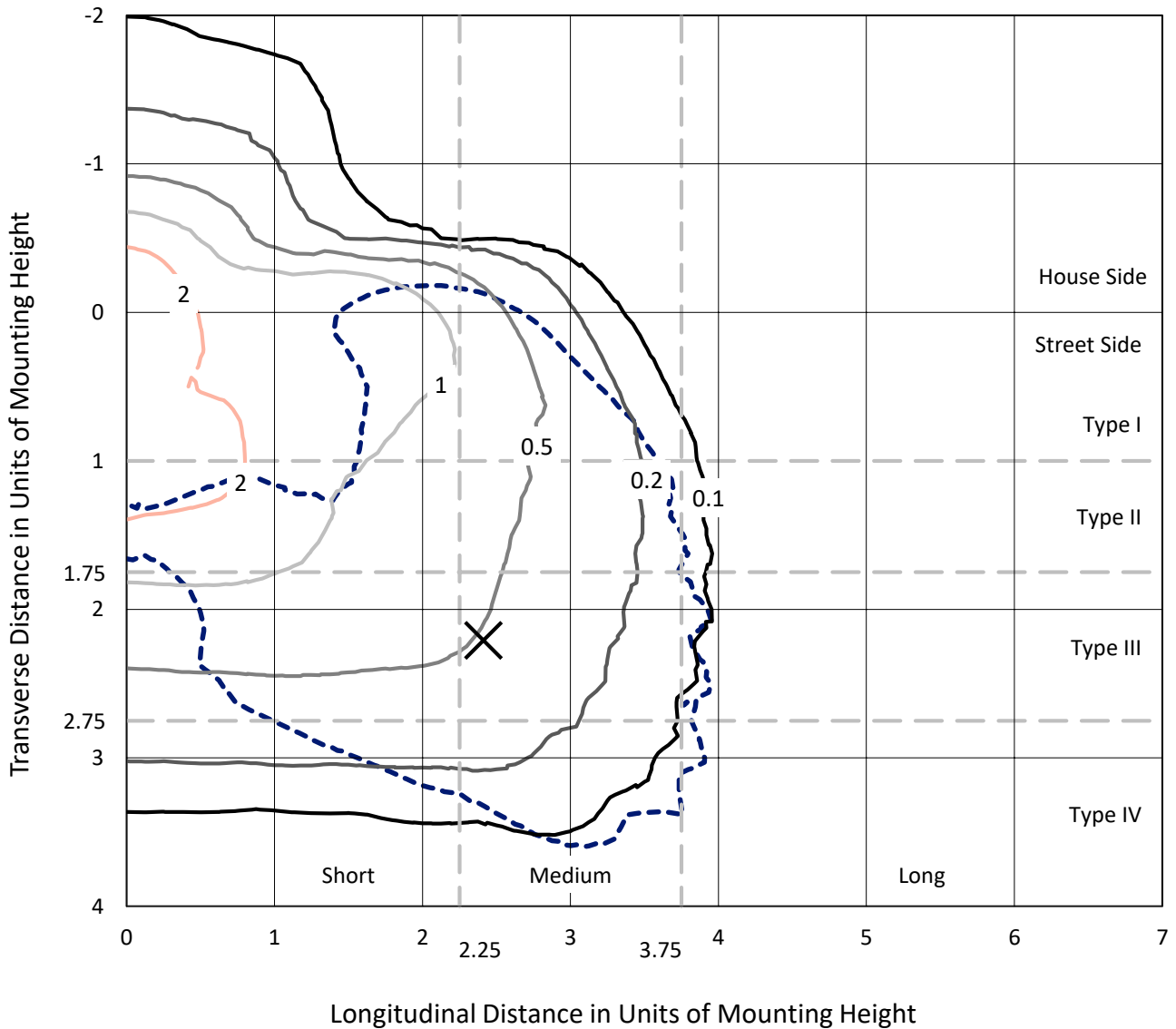
Input Watts (W): 25.31
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

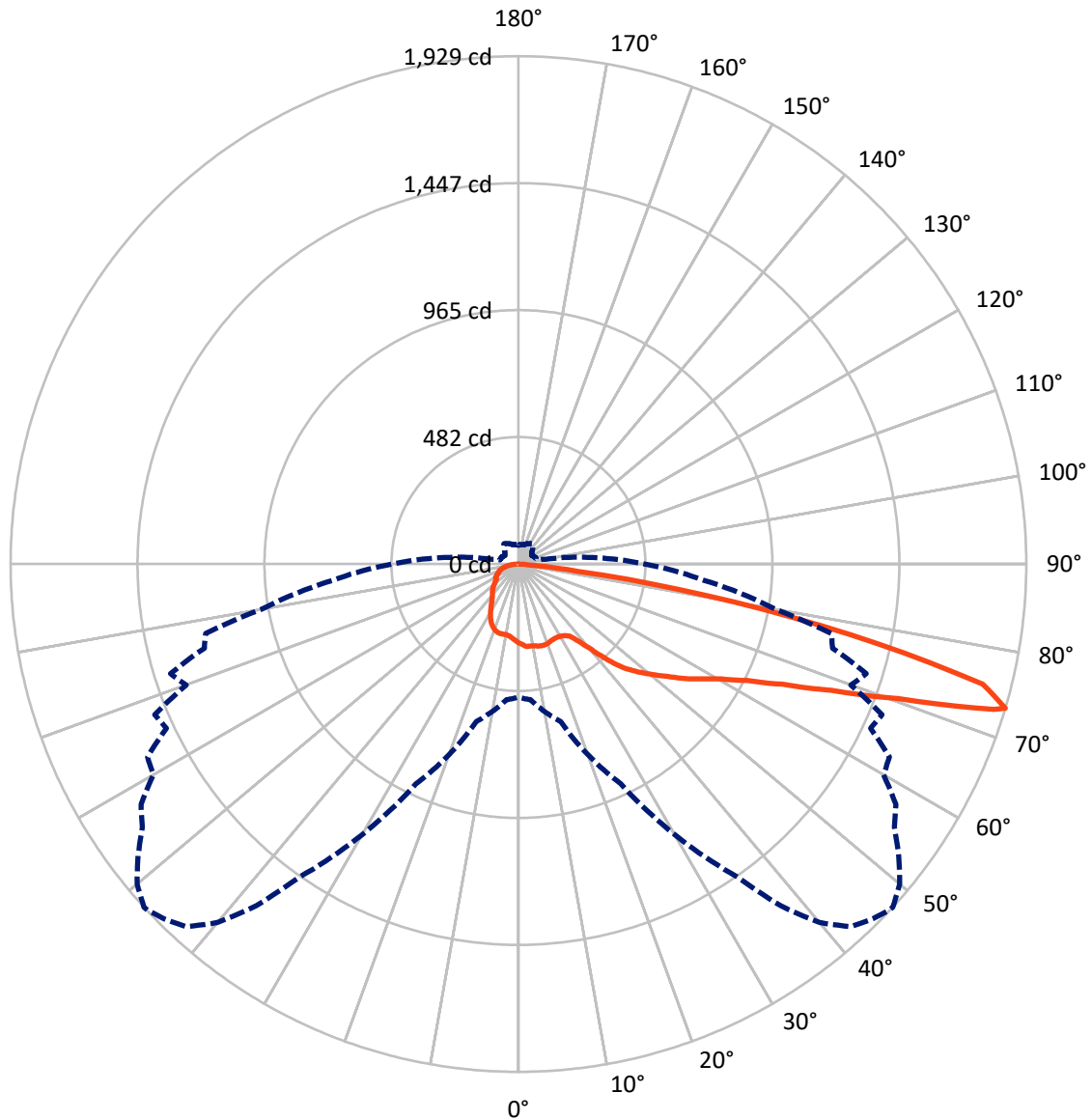
× Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 3.5 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	488.5	0.0	488.5
	% Fixture	20.0	0.0	20.0
Street Side	Lumens	1956.5	0.0	1956.5
	% Fixture	80.0	0.0	80.0
Total	Lumens	2445.0	0.0	2445.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	28.6	1.2
10°-20°	85.1	3.5
20°-30°	130.8	5.3
30°-40°	190.8	7.8
40°-50°	314.5	12.9
50°-60°	492.5	20.1
60°-70°	668.1	27.3
70°-80°	494.7	20.2
80°-90°	40.0	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°	2445.0	100.0
0°-180°	2445.0	100.0



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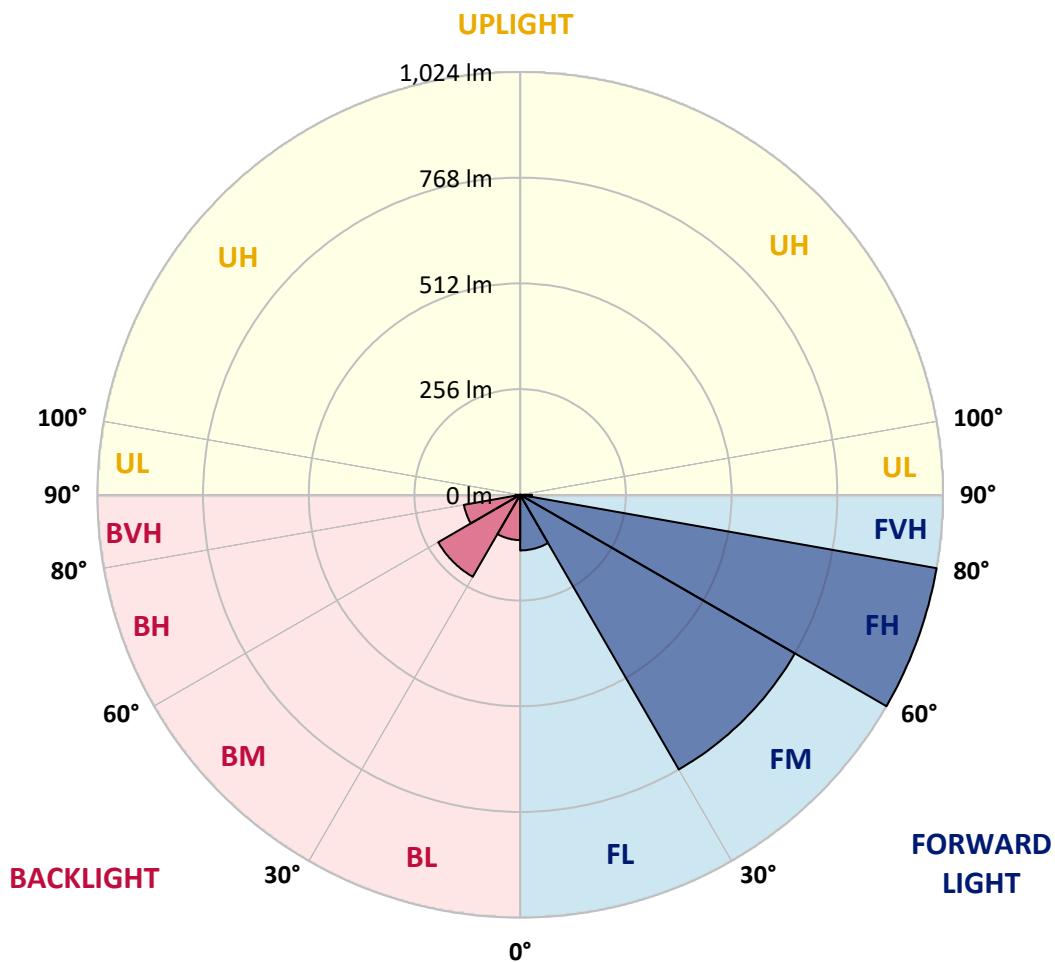
CATALOG NUMBER: ISS-AF-450-LED-E1-T4W-8030

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	134.8	5.5			
FM	(30°-60°)	768.4	31.4			
FH	(60°-80°)	1024.5	41.9			G1/1800
FVH	(80°-90°)	28.8	1.2			G1/100
BL	(0°-30°)	109.6	4.5	B0/110		
BM	(30°-60°)	229.4	9.4	B1/1000		
BH	(60°-80°)	138.3	5.7	B1/500		G1/500
BVH	(80°-90°)	11.1	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 Medium





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	37.5°	40°	42.5°	45°	47°	47.5°
0°	300.2	300.2	300.2	300.2	300.2	300.2	300.2	300.2	300.2	300.2	300.2
2.5°	318.0	317.2	314.8	314.0	311.5	309.9	309.1	308.3	310.7	309.1	306.7
5°	338.2	336.6	333.3	328.5	323.7	320.4	319.6	318.0	318.0	316.4	314.8
7.5°	352.7	351.9	347.1	339.8	331.7	326.1	322.8	320.4	321.2	319.6	314.8
10°	366.4	364.8	356.7	347.9	335.8	329.3	325.3	321.2	324.5	322.0	315.6
12.5°	376.9	375.3	364.0	352.7	339.0	331.7	327.7	325.3	328.5	326.9	319.6
15°	382.6	381.0	369.7	355.9	341.4	333.3	331.7	330.1	332.5	329.3	322.8
17.5°	379.3	379.3	368.9	354.3	342.2	334.1	331.7	330.1	333.3	330.1	322.8
20°	367.2	368.9	361.6	346.3	337.4	331.7	329.3	326.1	329.3	326.1	321.2
22.5°	351.9	353.5	349.5	335.8	329.3	325.3	324.5	321.2	323.7	321.2	316.4
25°	338.2	338.2	336.6	324.5	323.7	320.4	321.2	319.6	321.2	318.0	314.8
27.5°	339.0	339.0	332.5	320.4	319.6	319.6	319.6	319.6	320.4	318.0	314.8
30°	386.6	388.2	369.7	335.8	323.7	322.0	322.8	322.0	322.8	322.0	318.0
32.5°	458.4	458.4	440.7	388.2	345.4	335.0	330.9	330.1	327.7	326.9	323.7
35°	529.5	528.7	510.9	452.8	398.7	378.5	365.6	353.5	347.9	342.2	336.6
37.5°	589.2	586.8	584.4	518.2	461.7	438.3	422.9	405.2	393.9	384.2	371.3
40°	644.9	648.9	657.8	578.7	524.6	502.8	487.5	464.9	453.6	441.5	426.2
42.5°	721.6	727.2	728.0	644.1	581.9	567.4	555.3	538.3	526.2	511.7	498.0
45°	795.8	796.6	799.0	714.3	652.1	633.6	624.7	608.6	593.2	574.7	563.4
47.5°	846.7	844.2	854.7	795.0	734.5	713.5	700.6	676.4	653.0	629.5	612.6
50°	908.8	906.4	906.4	887.0	829.7	805.5	782.9	737.7	712.7	683.6	659.4
52.5°	963.7	954.8	960.5	971.8	929.8	899.1	859.6	808.7	775.6	740.1	709.5
55°	1038.8	992.8	1005.7	1045.2	1029.1	981.5	929.0	874.9	837.0	796.6	768.4
57.5°	1012.9	981.5	1019.4	1088.8	1088.0	1043.6	999.2	933.0	895.1	857.2	822.4
60°	920.1	936.3	1018.6	1118.7	1122.7	1088.0	1051.7	990.3	960.5	920.9	886.2
62.5°	848.3	871.7	984.7	1116.2	1162.2	1130.0	1100.1	1063.8	1042.8	1009.7	974.2
65°	844.2	858.0	967.7	1113.8	1217.9	1201.0	1187.3	1170.3	1166.3	1142.1	1100.9
67.5°	883.0	895.9	996.8	1176.0	1300.3	1293.0	1313.2	1309.9	1327.7	1315.6	1281.7
70°	807.1	814.4	938.7	1197.8	1488.3	1520.6	1565.8	1563.4	1601.3	1572.3	1532.7
72.5°	566.6	581.1	690.9	989.5	1492.4	1665.1	1770.0	1858.8	1899.9	1907.2	1888.6
73°	506.1	517.4	619.1	921.7	1452.0	1636.0	1777.3	1868.5	1904.8	1927.4	1929.0
75°	176.0	181.6	270.4	558.5	1160.6	1427.8	1609.4	1691.7	1682.8	1749.0	1821.7
77.5°	56.5	57.3	70.2	144.5	560.1	886.2	1088.8	1164.7	1121.1	1192.9	1289.8
80°	34.7	36.3	46.0	65.4	146.9	268.8	455.2	569.8	546.4	613.4	716.7
82.5°	21.0	21.8	28.2	40.4	58.9	65.4	85.6	116.2	142.9	171.9	225.2
85°	9.7	10.5	13.7	18.6	24.2	25.0	24.2	22.6	25.8	29.9	34.7
87.5°	0.0	0.0	0.8	1.6	0.8	0.0	0.0	0.0	0.0	0.8	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):

	50°	52.5°	55°	57.5°	60°	62.5°	65°	67.5°	70°	72.5°	75°
0°	300.2	300.2	300.2	300.2	300.2	300.2	300.2	300.2	300.2	300.2	300.2
2.5°	309.1	306.7	306.7	303.5	305.1	301.9	303.5	300.2	301.9	297.8	300.2
5°	314.0	309.9	309.9	305.1	305.9	300.2	302.7	296.2	299.4	292.2	297.0
7.5°	316.4	309.1	312.4	303.5	307.5	297.8	302.7	292.2	298.6	287.3	295.4
10°	319.6	309.1	314.8	305.1	309.9	298.6	305.1	292.2	300.2	286.5	293.8
12.5°	324.5	313.2	318.0	306.7	313.2	300.2	306.7	293.8	301.9	286.5	295.4
15°	327.7	316.4	321.2	309.9	314.8	300.2	308.3	293.0	301.9	285.7	295.4
17.5°	326.9	316.4	321.2	308.3	314.0	299.4	307.5	292.2	300.2	283.3	293.8
20°	323.7	314.8	318.0	306.7	311.5	297.0	304.3	288.9	297.8	280.9	291.4
22.5°	319.6	310.7	314.8	304.3	309.1	294.6	301.1	287.3	296.2	279.3	288.9
25°	317.2	309.9	312.4	301.9	308.3	295.4	301.9	286.5	296.2	279.3	290.6
27.5°	316.4	309.9	314.8	305.1	310.7	299.4	305.9	292.2	300.2	282.5	293.8
30°	321.2	315.6	319.6	311.5	316.4	305.1	311.5	298.6	306.7	289.8	302.7
32.5°	326.9	321.2	325.3	318.0	325.3	314.0	322.0	309.1	318.8	301.9	314.0
35°	339.0	332.5	338.2	330.1	338.2	329.3	338.2	324.5	336.6	319.6	332.5
37.5°	370.5	352.7	358.4	349.5	357.6	346.3	361.6	347.9	361.6	345.4	363.2
40°	420.5	389.0	394.7	376.1	388.2	371.3	389.8	379.3	397.9	377.7	400.3
42.5°	485.9	456.0	450.4	422.1	432.6	412.4	431.0	412.4	437.5	418.1	446.3
45°	545.6	514.1	505.3	477.8	485.1	458.4	481.8	456.0	489.1	466.5	502.0
47.5°	594.8	557.7	550.5	519.0	531.9	506.9	535.9	508.5	548.8	526.2	567.4
50°	640.0	594.0	592.4	558.5	580.3	555.3	596.5	577.9	617.4	594.8	643.3
52.5°	691.7	633.6	641.7	611.0	645.7	624.7	672.3	645.7	697.3	673.1	726.4
55°	746.6	685.2	706.2	687.7	728.8	715.1	755.5	731.2	782.1	757.9	814.4
57.5°	807.1	754.7	791.8	782.9	819.2	802.3	847.5	825.7	876.5	856.3	912.8
60°	886.2	851.5	887.8	887.0	918.5	917.7	946.7	933.8	982.3	973.4	1025.0
62.5°	988.7	961.3	1000.0	989.5	1027.5	1021.0	1056.5	1056.5	1091.2	1103.3	1155.0
65°	1126.7	1090.4	1136.4	1120.3	1158.2	1159.8	1182.4	1186.5	1228.4	1242.1	1286.5
67.5°	1314.0	1272.0	1308.3	1277.7	1321.2	1318.8	1338.2	1346.3	1351.9	1385.0	1389.9
70°	1583.6	1520.6	1553.7	1511.7	1519.8	1525.4	1489.1	1515.8	1451.2	1503.7	1432.6
72.5°	1874.9	1803.1	1745.8	1703.8	1620.7	1608.6	1502.8	1525.4	1388.2	1433.4	1289.8
73°	1890.3	1820.8	1743.4	1699.8	1601.3	1588.4	1475.4	1494.8	1343.0	1385.8	1234.9
75°	1718.3	1736.9	1550.5	1568.2	1397.1	1417.3	1240.5	1263.1	1076.7	1109.0	914.5
77.5°	1158.2	1220.4	1011.3	1089.6	877.3	955.6	715.9	723.2	527.9	493.1	335.0
80°	573.9	627.1	444.7	485.9	326.1	320.4	195.3	162.2	138.0	141.2	145.3
82.5°	165.5	186.4	115.4	114.6	81.5	77.5	77.5	82.3	83.9	93.6	91.2
85°	31.5	37.9	33.1	44.4	39.5	43.6	40.4	46.8	43.6	54.1	46.8
87.5°	0.8	0.0	0.8	2.4	2.4	5.6	4.0	6.5	6.5	11.3	10.5
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°	300.2	300.2	300.2	300.2	300.2	300.2	300.2	300.2	300.2	300.2	300.2
2.5°	297.0	301.1	299.4	297.8	296.2	295.4	292.2	293.8	289.8	293.0	289.8
5°	290.6	295.4	293.0	289.8	288.1	286.5	280.9	284.9	278.5	284.1	279.3
7.5°	283.3	291.4	288.9	285.7	282.5	280.9	269.6	278.5	268.8	276.8	268.8
10°	280.9	289.8	286.5	282.5	279.3	277.6	263.9	274.4	263.9	272.8	262.3
12.5°	279.3	289.8	284.9	280.9	277.6	275.2	259.9	272.8	259.1	272.0	259.9
15°	277.6	289.8	283.3	278.5	275.2	272.8	256.7	271.2	255.9	270.4	256.7
17.5°	276.0	287.3	281.7	276.0	272.8	271.2	253.4	268.8	252.6	268.8	255.0
20°	273.6	284.9	278.5	272.8	269.6	267.2	249.4	265.5	248.6	264.7	249.4
22.5°	270.4	282.5	276.8	271.2	268.0	263.9	244.6	261.5	243.7	259.9	245.4
25°	271.2	284.1	276.8	271.2	266.3	262.3	241.3	259.9	239.7	255.9	239.7
27.5°	275.2	286.5	279.3	274.4	268.0	263.1	241.3	258.3	238.1	251.8	234.9
30°	283.3	294.6	288.1	280.9	275.2	268.8	245.4	259.1	238.1	247.0	230.0
32.5°	297.0	307.5	301.1	295.4	288.9	279.3	253.4	263.1	239.7	243.7	226.0
35°	314.8	327.7	324.5	320.4	312.4	295.4	267.2	268.8	242.9	240.5	220.3
37.5°	343.8	361.6	360.8	360.0	351.1	320.4	282.5	280.1	246.2	238.1	213.1
40°	381.8	402.7	408.4	414.0	395.5	350.3	300.2	291.4	247.8	233.3	201.8
42.5°	426.2	454.4	471.4	481.8	447.9	383.4	320.4	304.3	247.8	226.0	188.9
45°	481.0	514.1	546.4	557.7	506.1	418.9	341.4	314.8	244.6	214.7	171.9
47.5°	548.0	586.8	631.2	636.8	569.0	456.8	355.9	322.0	234.1	199.4	156.6
50°	622.3	669.1	734.5	730.4	636.0	496.4	365.6	326.9	215.5	181.6	138.0
52.5°	705.4	764.3	857.2	838.6	717.5	545.6	374.5	333.3	192.9	160.6	119.5
55°	809.5	879.8	996.0	956.4	807.9	599.7	387.4	334.1	163.0	135.6	105.7
57.5°	921.7	996.8	1145.3	1073.5	892.7	641.7	381.8	308.3	133.2	114.6	95.2
60°	1056.5	1147.7	1294.6	1182.4	963.7	656.2	342.2	254.2	113.8	103.3	90.4
62.5°	1207.4	1297.8	1417.3	1258.3	1004.0	632.0	254.2	176.0	97.7	92.0	83.1
65°	1368.1	1453.6	1476.2	1264.7	977.4	525.4	157.4	115.4	84.7	82.3	76.7
67.5°	1515.8	1523.8	1420.5	1159.8	848.3	366.4	107.3	92.0	78.3	77.5	74.3
70°	1553.7	1414.1	1180.8	903.2	612.6	217.9	87.2	79.9	75.1	75.1	72.6
72.5°	1297.8	1076.7	789.4	547.2	334.1	116.2	74.3	72.6	71.0	71.0	69.4
73°	1217.1	991.9	707.0	477.8	282.5	104.1	72.6	71.0	70.2	69.4	68.6
75°	808.7	623.1	401.1	242.1	131.6	75.1	64.6	64.6	63.8	64.6	63.8
77.5°	311.5	234.9	155.0	104.1	75.1	58.9	54.9	55.7	54.9	56.5	55.7
80°	137.2	135.6	102.5	73.4	54.9	44.4	44.4	44.4	45.2	46.0	46.0
82.5°	93.6	79.1	60.5	45.2	33.1	32.3	33.1	33.1	33.9	34.7	33.9
85°	51.7	43.6	32.3	20.2	17.8	21.8	21.8	21.8	21.0	21.0	20.2
87.5°	16.1	12.1	8.9	2.4	4.0	4.0	5.6	4.8	4.8	5.6	5.6
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):

	115°	117.5°	120°	122.5°	125°	127.5°	130°	135°	145°	155°	165°
0°	300.2	300.2	300.2	300.2	300.2	300.2	300.2	300.2	300.2	300.2	300.2
2.5°	293.0	290.6	293.0	288.9	292.2	288.9	291.4	291.4	290.6	290.6	290.6
5°	283.3	279.3	283.3	280.9	283.3	280.1	282.5	283.3	284.1	286.5	285.7
7.5°	276.0	268.0	276.8	268.8	276.0	268.8	275.2	276.0	278.5	281.7	284.1
10°	272.8	262.3	272.8	263.1	272.0	263.9	272.0	272.8	275.2	279.3	283.3
12.5°	271.2	259.9	271.2	261.5	271.2	263.1	271.2	273.6	275.2	278.5	283.3
15°	269.6	258.3	271.2	260.7	271.2	263.1	272.0	273.6	276.0	279.3	283.3
17.5°	268.8	255.9	269.6	259.9	269.6	261.5	271.2	271.2	274.4	278.5	280.9
20°	265.5	253.4	265.5	255.9	265.5	258.3	266.3	266.3	269.6	271.2	275.2
22.5°	260.7	247.8	259.1	250.2	259.1	251.8	258.3	258.3	260.7	263.1	265.5
25°	253.4	241.3	251.0	242.9	249.4	242.9	247.8	247.0	248.6	250.2	251.8
27.5°	245.4	233.3	241.3	232.4	236.5	230.0	233.3	231.6	232.4	233.3	234.1
30°	236.5	224.4	228.4	220.3	221.1	214.7	216.3	213.9	213.1	212.3	210.7
32.5°	226.8	213.9	213.9	205.8	204.2	198.6	198.6	195.3	192.9	189.7	186.4
35°	214.7	203.4	197.7	191.3	188.1	182.4	181.6	177.6	171.9	166.3	163.0
37.5°	202.6	189.7	181.6	175.1	171.9	167.9	167.1	163.8	157.4	150.9	146.1
40°	186.4	173.5	164.7	162.2	159.8	156.6	157.4	153.4	146.9	139.6	135.6
42.5°	170.3	159.0	151.7	150.9	149.3	148.5	149.3	146.1	138.8	132.4	127.5
45°	156.6	145.3	138.0	137.2	136.4	139.6	140.4	139.6	131.6	125.1	118.6
47.5°	142.9	129.1	124.3	122.7	123.5	128.3	129.9	132.4	125.1	117.8	109.0
50°	126.7	113.8	112.2	110.6	111.4	115.4	119.5	124.3	117.8	107.3	95.2
52.5°	112.2	100.9	101.7	100.1	101.7	104.9	108.2	116.2	108.2	97.7	92.0
55°	100.9	92.0	93.6	92.0	93.6	97.7	100.1	106.5	106.5	104.1	99.3
57.5°	92.8	86.4	88.0	86.4	88.8	92.0	94.4	108.2	116.2	109.8	100.1
60°	88.0	82.3	83.1	81.5	83.1	88.0	92.8	109.0	121.9	109.0	101.7
62.5°	80.7	75.9	75.1	75.1	76.7	84.7	87.2	101.7	120.3	108.2	102.5
65°	75.9	71.8	71.0	70.2	71.8	77.5	79.9	94.4	116.2	102.5	92.8
67.5°	73.4	70.2	68.6	67.0	68.6	73.4	75.9	88.8	109.8	97.7	87.2
70°	71.0	67.8	67.0	65.4	66.2	69.4	72.6	81.5	104.1	92.0	81.5
72.5°	67.8	64.6	63.8	61.3	62.1	65.4	67.0	76.7	96.9	86.4	75.9
73°	67.0	63.8	63.0	60.5	61.3	63.8	65.4	75.1	95.2	85.6	75.1
75°	63.0	59.7	58.9	57.3	58.1	58.1	59.7	68.6	90.4	80.7	70.2
77.5°	55.7	53.3	52.5	50.8	50.0	49.2	51.7	60.5	82.3	72.6	56.5
80°	46.0	43.6	42.8	39.5	39.5	39.5	42.8	51.7	61.3	52.5	43.6
82.5°	33.9	32.3	32.3	29.9	29.1	28.2	30.7	35.5	48.4	41.2	33.9
85°	20.2	19.4	20.2	17.8	18.6	17.8	20.2	25.0	26.6	21.0	16.1
87.5°	4.8	5.6	5.6	5.6	4.8	4.8	4.0	3.2	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°	300.2	300.2
2.5°	289.8	288.9
5°	285.7	285.7
7.5°	284.1	284.1
10°	284.9	284.9
12.5°	284.9	286.5
15°	287.3	286.5
17.5°	284.9	284.9
20°	278.5	280.1
22.5°	269.6	269.6
25°	255.0	255.9
27.5°	235.7	237.3
30°	211.5	213.1
32.5°	184.0	185.6
35°	162.2	163.0
37.5°	147.7	147.7
40°	135.6	135.6
42.5°	124.3	123.5
45°	113.0	111.4
47.5°	101.7	100.9
50°	92.0	92.0
52.5°	93.6	93.6
55°	100.9	100.9
57.5°	101.7	100.9
60°	110.6	109.8
62.5°	115.4	117.8
65°	100.9	97.7
67.5°	96.0	91.2
70°	86.4	79.1
72.5°	76.7	72.6
73°	74.3	71.0
75°	66.2	64.6
77.5°	50.0	49.2
80°	42.0	41.2
82.5°	28.2	26.6
85°	12.1	11.3
87.5°	0.0	0.0
90°	0.0	0.0

(END OF REPORT)