

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: P227708

Luminaire Tested: **ISS-AF-450-LED-E1-T3-7050**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P227708
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P29759)
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-T3-7050
Description: IMPACT ELITE LED QUATER SPHERE LUMINAIRE
LIGHT SQUARE WITH ACCULED OPTICS-TYPE III
Light Source: (16) 5000K CCT, 70 CRI LEDs
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2994 lumens
Efficiency: N/A
Efficacy: 118.3 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')
IES Classification: Type III - Medium - Semi-Cutoff
BUG Rating: B1 - U0 - G1

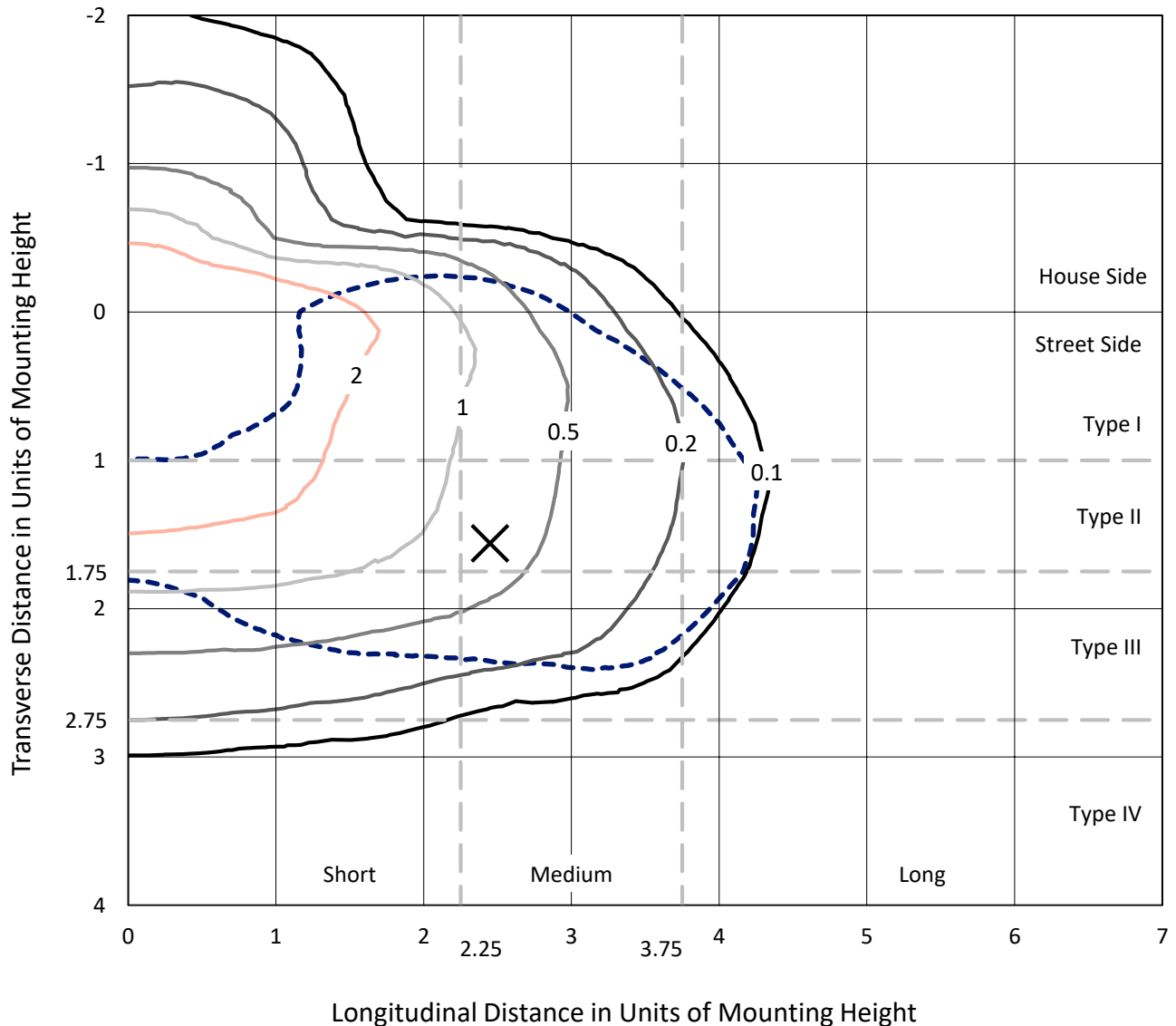
Input Watts (W): 25.31
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

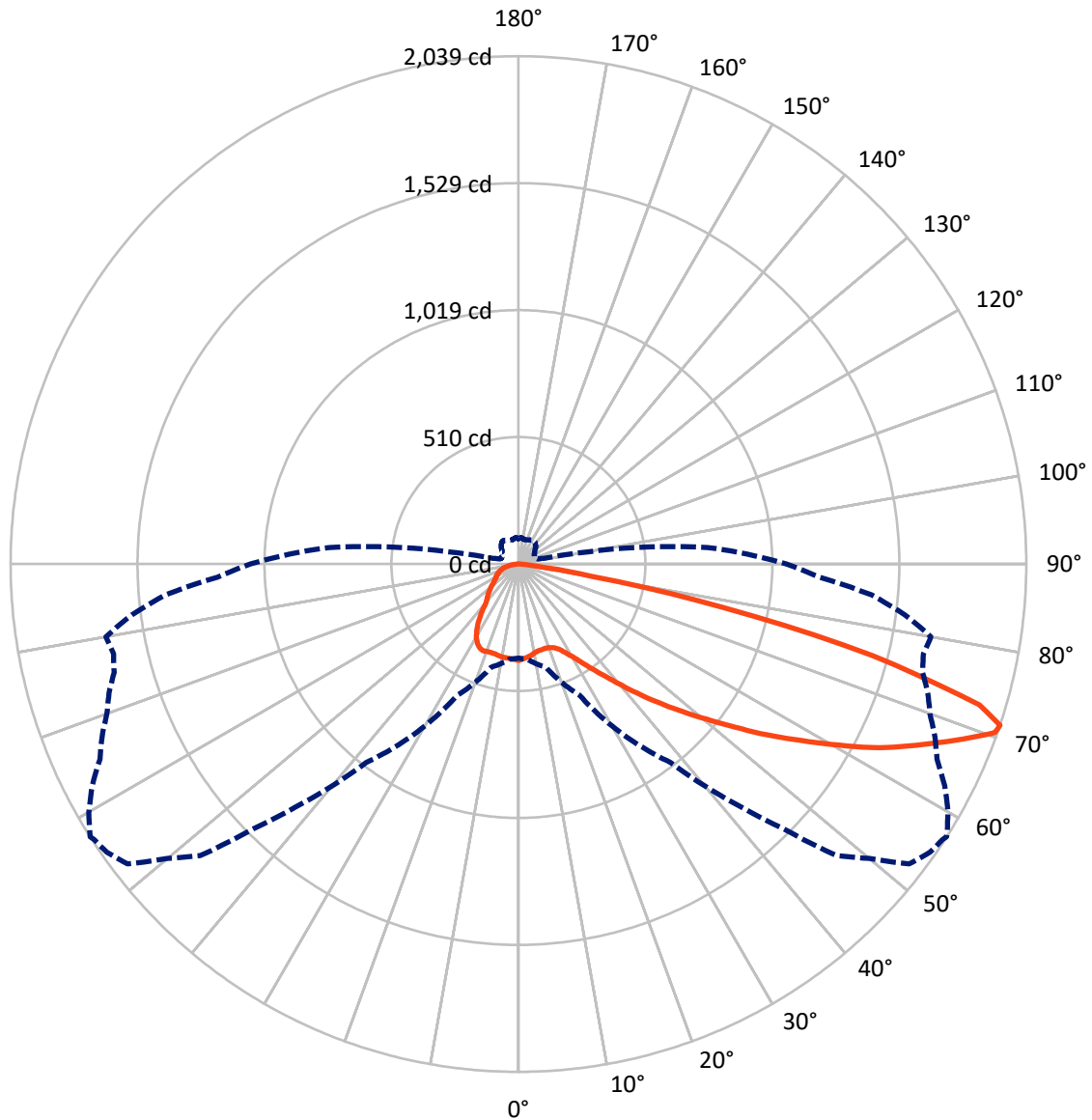
× Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 3.9 fc
 Type III - Medium - Semi-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 57.5-Deg Lateral - - - Horizontal Cone Through 71-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	651.8	0.0	651.8
	% Fixture	21.8	0.0	21.8
Street Side	Lumens	2342.2	0.0	2342.2
	% Fixture	78.2	0.0	78.2
Total	Lumens	2994.0	0.0	2994.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	36.4	1.2
10°-20°	104.9	3.5
20°-30°	174.1	5.8
30°-40°	277.2	9.3
40°-50°	450.3	15.0
50°-60°	675.2	22.6
60°-70°	805.5	26.9
70°-80°	435.0	14.5
80°-90°	35.4	1.2
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°	2994.0	100.0
0°-180°	2994.0	100.0



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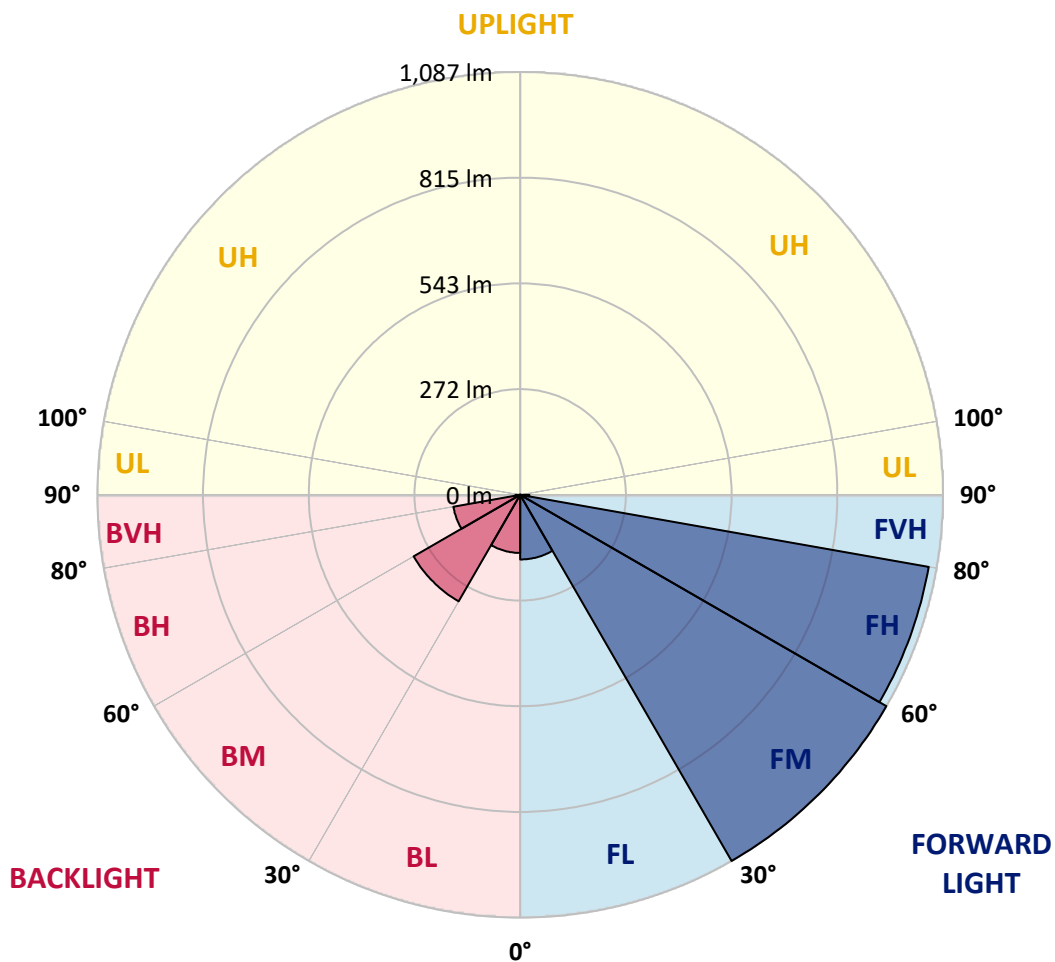
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	166.1	5.5			
FM	(30°-60°)	1086.6	36.3			
FH	(60°-80°)	1066.1	35.6			G1/1800
FVH	(80°-90°)	23.3	0.8			G1/100
BL	(0°-30°)	149.3	5.0	B1/500		
BM	(30°-60°)	316.1	10.6	B1/1000		
BH	(60°-80°)	174.4	5.8	B1/500		G1/500
BVH	(80°-90°)	12.1	0.4			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 III Medium





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	37.5°	40°	42.5°	45°	47.5°	50°
0°	386.8	386.8	386.8	386.8	386.8	386.8	386.8	386.8	386.8	386.8	386.8
2.5°	386.8	385.8	384.8	384.8	384.8	383.8	380.8	381.8	384.8	382.8	385.8
5°	385.8	383.8	382.8	382.8	382.8	379.9	378.9	377.9	383.8	378.9	382.8
7.5°	374.9	374.9	372.9	374.9	376.9	373.9	371.9	372.9	377.9	372.9	377.9
10°	367.0	365.0	364.0	364.0	366.0	362.0	360.1	362.0	368.0	362.0	369.0
12.5°	364.0	365.0	362.0	362.0	361.1	356.1	356.1	356.1	361.1	356.1	362.0
15°	369.0	368.0	365.0	363.0	360.1	356.1	355.1	356.1	360.1	354.1	361.1
17.5°	375.9	375.9	371.0	366.0	363.0	359.1	359.1	357.1	360.1	356.1	361.1
20°	393.7	390.7	383.8	375.9	368.0	366.0	362.0	362.0	364.0	360.1	363.0
22.5°	424.4	421.4	409.5	394.7	381.8	376.9	374.9	373.9	371.9	370.0	370.0
25°	464.9	460.0	446.1	428.3	406.6	402.6	398.6	395.7	388.8	388.8	383.8
27.5°	508.5	503.5	488.7	468.9	442.2	436.2	431.3	427.3	415.5	415.5	406.6
30°	557.9	552.0	534.2	512.4	481.7	479.8	472.8	466.9	451.1	450.1	438.2
32.5°	615.3	607.4	589.6	560.9	528.2	529.2	518.3	514.4	493.6	494.6	478.8
35°	680.6	671.7	653.9	616.3	582.6	585.6	575.7	568.8	543.1	543.1	526.3
37.5°	749.8	749.8	727.1	683.5	643.0	649.9	638.0	631.1	605.4	609.4	582.6
40°	827.0	831.9	807.2	757.7	716.2	719.2	710.2	702.3	671.7	678.6	649.9
42.5°	908.1	917.0	895.2	843.8	797.3	807.2	792.4	784.4	751.8	766.6	733.0
45°	1025.8	1027.8	987.2	937.8	899.2	908.1	887.3	884.4	843.8	859.6	826.0
47.5°	1100.0	1095.1	1065.4	1035.7	1012.9	1030.8	1012.0	1007.0	960.5	971.4	923.9
50°	1150.4	1153.4	1130.7	1127.7	1131.7	1165.3	1162.3	1152.4	1097.0	1089.1	1029.8
52.5°	1195.9	1183.1	1179.1	1206.8	1249.4	1288.9	1304.8	1291.9	1231.6	1209.8	1152.4
55°	1188.0	1169.2	1190.0	1257.3	1341.4	1402.7	1404.7	1395.8	1341.4	1332.5	1270.1
57.5°	1134.6	1138.6	1181.1	1277.1	1419.5	1482.8	1493.7	1482.8	1438.3	1446.2	1394.8
60°	1060.4	1068.3	1135.6	1259.3	1481.8	1536.2	1541.2	1554.0	1524.4	1545.1	1509.5
62.5°	949.6	960.5	1046.6	1214.7	1438.3	1519.4	1564.9	1594.6	1588.7	1636.1	1617.4
65°	872.5	872.5	956.6	1163.3	1395.8	1502.6	1570.9	1626.3	1634.2	1709.3	1702.4
67.5°	729.0	734.0	806.2	1019.9	1344.3	1465.0	1567.9	1661.9	1709.3	1828.1	1834.0
70°	504.5	508.5	555.9	728.1	1086.1	1189.0	1340.4	1493.7	1636.1	1815.2	1908.2
71°	377.9	382.8	429.3	580.7	920.0	1005.0	1162.3	1321.6	1500.6	1733.1	1837.9
72.5°	185.0	187.9	233.5	372.9	640.0	748.8	839.8	992.2	1182.1	1448.2	1596.6
75°	86.1	87.1	96.9	134.5	244.3	290.8	331.4	429.3	547.0	780.5	960.5
77.5°	63.3	63.3	69.2	88.0	126.6	128.6	126.6	129.6	156.3	223.6	336.3
80°	46.5	46.5	50.4	59.4	84.1	84.1	81.1	82.1	79.1	82.1	93.0
82.5°	30.7	30.7	32.6	35.6	51.4	51.4	49.5	49.5	47.5	46.5	50.4
85°	17.8	18.8	19.8	16.8	21.8	20.8	18.8	20.8	19.8	17.8	21.8
87.5°	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	1.0	0.0	1.0
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):

	52.5°	55°	57°	57.5°	60°	62.5°	65°	67.5°	70°	72.5°	75°
0°	386.8	386.8	386.8	386.8	386.8	386.8	386.8	386.8	386.8	386.8	386.8
2.5°	381.8	384.8	384.8	380.8	383.8	380.8	382.8	379.9	382.8	377.9	383.8
5°	378.9	381.8	381.8	375.9	381.8	375.9	380.8	373.9	380.8	372.9	380.8
7.5°	371.0	377.9	377.9	370.0	376.9	371.0	376.9	370.0	375.9	367.0	376.9
10°	362.0	369.0	370.0	362.0	370.0	363.0	371.9	363.0	371.9	362.0	372.9
12.5°	356.1	364.0	366.0	357.1	367.0	358.1	369.0	359.1	369.0	358.1	371.0
15°	355.1	362.0	364.0	356.1	365.0	355.1	368.0	356.1	369.0	357.1	371.9
17.5°	356.1	362.0	364.0	355.1	364.0	356.1	367.0	357.1	369.0	358.1	371.9
20°	359.1	363.0	363.0	358.1	365.0	358.1	367.0	357.1	370.0	360.1	372.9
22.5°	368.0	369.0	369.0	365.0	369.0	364.0	371.0	364.0	372.9	365.0	376.9
25°	382.8	381.8	379.9	378.9	379.9	376.9	380.8	375.9	384.8	377.9	389.7
27.5°	408.5	404.6	402.6	402.6	401.6	402.6	402.6	400.6	404.6	402.6	410.5
30°	440.2	433.3	430.3	433.3	429.3	433.3	432.3	431.3	435.3	433.3	440.2
32.5°	481.7	469.9	467.9	473.8	465.9	472.8	466.9	469.9	472.8	474.8	478.8
35°	530.2	516.4	514.4	520.3	511.4	521.3	514.4	518.3	520.3	525.3	528.2
37.5°	587.6	570.8	567.8	575.7	563.8	574.7	564.8	576.7	573.7	580.7	583.6
40°	656.8	637.0	630.1	641.0	627.2	636.1	626.2	639.0	636.1	649.9	652.9
42.5°	741.9	713.2	706.3	717.2	696.4	699.4	691.5	706.3	704.3	723.1	726.1
45°	829.9	795.3	785.4	796.3	772.6	778.5	766.6	782.5	781.5	796.3	808.2
47.5°	927.9	885.3	872.5	884.4	855.7	862.6	850.7	867.5	868.5	885.3	897.2
50°	1029.8	985.2	968.4	979.3	952.6	957.6	945.7	966.5	965.5	988.2	997.1
52.5°	1140.6	1095.1	1082.2	1087.1	1055.5	1061.4	1051.5	1077.2	1071.3	1085.2	1103.0
55°	1263.2	1210.8	1195.9	1210.8	1173.2	1181.1	1168.3	1192.0	1182.1	1199.9	1204.9
57.5°	1388.8	1337.4	1325.5	1336.4	1300.8	1306.7	1289.9	1309.7	1301.8	1313.7	1321.6
60°	1522.4	1475.9	1464.0	1475.9	1441.3	1442.3	1413.6	1434.3	1422.5	1437.3	1434.3
62.5°	1650.0	1610.4	1607.5	1624.3	1580.8	1575.8	1541.2	1556.0	1539.2	1549.1	1537.2
65°	1758.8	1736.1	1740.0	1753.9	1715.3	1703.4	1663.8	1671.8	1647.0	1647.0	1632.2
67.5°	1901.3	1876.5	1876.5	1888.4	1839.9	1809.3	1754.9	1747.9	1707.4	1699.5	1664.8
70°	2020.0	2026.9	2019.0	2028.9	1971.5	1909.2	1837.0	1802.3	1748.9	1723.2	1682.6
71°	1977.4	2017.0	2030.8	2038.8	1991.3	1929.0	1853.8	1809.3	1757.8	1723.2	1679.7
72.5°	1784.5	1880.5	1934.9	1934.9	1940.8	1901.3	1829.0	1780.6	1722.2	1676.7	1636.1
75°	1250.4	1406.7	1476.9	1469.0	1520.4	1538.2	1544.2	1523.4	1490.7	1425.4	1396.8
77.5°	556.9	734.0	839.8	840.8	896.2	944.7	983.3	1023.8	1009.0	977.3	975.4
80°	126.6	229.5	293.8	296.8	347.2	391.7	418.4	459.0	463.9	418.4	392.7
82.5°	54.4	64.3	73.2	72.2	89.0	106.8	126.6	137.5	132.6	109.8	103.9
85°	22.8	29.7	31.7	29.7	36.6	40.6	47.5	48.5	56.4	50.4	53.4
87.5°	0.0	1.0	1.0	0.0	2.0	0.0	2.0	1.0	4.9	2.0	5.9
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°	82.5°	85°	87.5°	90°	95°	100°	102.5°	105°	107.5°
0°	386.8	386.8	386.8	386.8	386.8	386.8	386.8	386.8	386.8	386.8	386.8
2.5°	379.9	384.8	379.9	384.8	381.8	384.8	383.8	384.8	379.9	384.8	378.9
5°	372.9	380.8	373.9	379.9	373.9	380.8	380.8	380.8	373.9	381.8	374.9
7.5°	367.0	375.9	367.0	375.9	370.0	376.9	376.9	379.9	371.9	380.8	371.0
10°	361.1	371.9	361.1	373.9	364.0	374.9	375.9	377.9	367.0	378.9	369.0
12.5°	358.1	371.9	359.1	371.9	360.1	374.9	375.9	377.9	366.0	380.8	368.0
15°	358.1	372.9	359.1	372.9	360.1	374.9	376.9	378.9	366.0	381.8	368.0
17.5°	358.1	372.9	361.1	373.9	362.0	375.9	377.9	379.9	368.0	381.8	370.0
20°	361.1	374.9	363.0	376.9	365.0	378.9	379.9	382.8	370.0	382.8	371.9
22.5°	368.0	379.9	370.0	382.8	373.9	384.8	385.8	388.8	378.9	389.7	380.8
25°	379.9	392.7	384.8	394.7	389.7	398.6	400.6	400.6	396.7	403.6	400.6
27.5°	404.6	414.5	408.5	417.4	414.5	421.4	421.4	422.4	425.4	427.3	430.3
30°	436.2	443.2	441.2	446.1	447.1	451.1	451.1	457.0	468.9	457.0	456.0
32.5°	478.8	482.7	483.7	485.7	489.7	492.6	496.6	503.5	513.4	485.7	476.8
35°	531.2	532.2	535.2	538.1	545.1	547.0	559.9	554.9	554.9	511.4	492.6
37.5°	588.6	588.6	596.5	596.5	613.3	614.3	627.2	601.4	586.6	530.2	502.5
40°	660.8	659.8	668.7	670.7	693.4	694.4	692.4	636.1	604.4	535.2	497.6
42.5°	737.0	739.9	751.8	755.8	772.6	778.5	753.8	659.8	612.3	532.2	480.8
45°	820.1	826.0	840.8	851.7	869.5	862.6	803.2	670.7	603.4	514.4	448.1
47.5°	911.1	917.0	928.9	949.6	957.6	949.6	843.8	674.6	589.6	486.7	400.6
50°	1003.1	1012.9	1029.8	1059.4	1063.4	1043.6	893.3	689.5	578.7	458.0	346.2
52.5°	1106.9	1116.8	1136.6	1186.1	1176.2	1135.6	951.6	717.2	581.7	440.2	299.7
55°	1216.7	1230.6	1269.2	1317.6	1295.9	1232.6	1015.9	757.7	593.5	421.4	248.3
57.5°	1332.5	1347.3	1397.7	1455.1	1412.6	1327.5	1081.2	789.4	599.5	382.8	191.9
60°	1447.2	1468.0	1533.3	1580.8	1514.5	1408.6	1139.6	810.2	583.6	309.6	148.4
62.5°	1552.1	1585.7	1658.9	1684.6	1578.8	1460.1	1171.2	795.3	519.3	213.7	119.7
65°	1626.3	1669.8	1717.3	1714.3	1566.9	1443.3	1147.5	727.1	386.8	141.5	101.9
67.5°	1657.9	1698.5	1709.3	1658.9	1481.8	1369.1	1062.4	585.6	222.6	105.8	89.0
70°	1669.8	1704.4	1643.1	1521.4	1315.6	1187.0	868.5	372.9	121.7	86.1	77.2
71°	1664.8	1681.7	1564.9	1422.5	1209.8	1075.3	761.7	283.9	103.9	80.1	73.2
72.5°	1597.6	1573.8	1393.8	1235.5	1025.8	889.3	592.5	179.0	85.1	72.2	68.3
75°	1305.8	1198.9	1025.8	876.4	698.4	558.9	321.5	92.0	68.3	62.3	59.4
77.5°	853.7	760.7	618.3	502.5	381.8	289.8	131.6	63.3	54.4	52.4	51.4
80°	304.7	244.3	185.0	162.2	122.7	100.9	64.3	48.5	42.5	43.5	42.5
82.5°	86.1	79.1	68.3	63.3	55.4	54.4	41.5	36.6	33.6	35.6	34.6
85°	42.5	36.6	26.7	25.7	19.8	22.8	20.8	24.7	21.8	22.8	20.8
87.5°	3.0	4.0	1.0	3.0	0.0	3.0	4.0	4.9	1.0	4.0	3.0
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):

	110°	112.5°	115°	117.5°	120°	122.5°	125°	127.5°	130°	135°	145°
0°	386.8	386.8	386.8	386.8	386.8	386.8	386.8	386.8	386.8	386.8	386.8
2.5°	385.8	381.8	386.8	381.8	386.8	383.8	386.8	383.8	386.8	388.8	388.8
5°	383.8	376.9	385.8	380.8	386.8	381.8	385.8	382.8	387.8	389.7	391.7
7.5°	382.8	375.9	384.8	377.9	386.8	379.9	385.8	381.8	387.8	389.7	393.7
10°	381.8	372.9	384.8	374.9	385.8	378.9	385.8	379.9	386.8	388.8	389.7
12.5°	381.8	371.9	384.8	373.9	385.8	375.9	384.8	375.9	385.8	384.8	381.8
15°	382.8	370.0	384.8	371.9	384.8	372.9	383.8	371.9	381.8	378.9	376.9
17.5°	382.8	370.0	383.8	371.0	382.8	371.9	380.8	370.0	378.9	377.9	374.9
20°	384.8	371.9	383.8	374.9	383.8	372.9	379.9	370.0	376.9	371.0	359.1
22.5°	390.7	381.8	390.7	381.8	385.8	375.9	378.9	367.0	366.0	356.1	337.3
25°	404.6	400.6	398.6	387.8	384.8	371.9	368.0	354.1	349.2	334.4	308.6
27.5°	422.4	413.5	401.6	388.8	375.9	360.1	349.2	338.3	327.4	308.6	276.0
30°	434.3	421.4	396.7	378.9	355.1	342.3	323.5	311.6	295.8	272.0	240.4
32.5°	442.2	422.4	384.8	364.0	332.4	315.6	290.8	278.0	255.2	232.5	209.7
35°	444.2	418.4	369.0	346.2	304.7	285.9	253.2	239.4	217.6	201.8	192.9
37.5°	436.2	404.6	344.2	314.6	269.1	247.3	216.6	206.7	193.9	187.9	184.0
40°	420.4	377.9	305.7	271.0	224.5	207.7	191.9	191.9	185.0	182.0	175.1
42.5°	391.7	338.3	256.2	222.6	190.9	187.9	179.0	183.0	178.1	176.1	166.2
45°	347.2	281.9	206.7	187.0	172.1	174.1	168.2	172.1	169.2	168.2	156.3
47.5°	289.8	224.5	174.1	167.2	157.3	160.3	155.3	160.3	157.3	158.3	149.4
50°	231.5	182.0	154.3	150.4	143.4	145.4	142.4	147.4	146.4	150.4	145.4
52.5°	185.0	155.3	137.5	134.5	130.6	131.6	130.6	135.5	136.5	144.4	144.4
55°	153.3	133.5	123.7	122.7	118.7	119.7	120.7	125.6	129.6	139.5	144.4
57.5°	131.6	119.7	112.8	111.8	109.8	110.8	112.8	118.7	122.7	135.5	146.4
60°	115.7	108.8	103.9	103.9	101.9	103.9	105.8	111.8	116.7	131.6	142.4
62.5°	103.9	98.9	96.0	96.9	96.0	97.9	99.9	105.8	111.8	125.6	136.5
65°	93.0	90.0	88.0	89.0	89.0	92.0	94.0	99.9	104.9	117.7	131.6
67.5°	84.1	82.1	81.1	82.1	83.1	86.1	89.0	93.0	96.9	108.8	124.6
70°	77.2	75.2	75.2	75.2	76.2	79.1	83.1	85.1	89.0	101.9	116.7
71°	73.2	72.2	72.2	72.2	73.2	76.2	80.1	82.1	86.1	98.9	112.8
72.5°	68.3	68.3	69.2	68.3	70.2	71.2	75.2	77.2	82.1	95.0	107.8
75°	60.3	60.3	61.3	61.3	63.3	63.3	66.3	68.3	74.2	85.1	96.9
77.5°	53.4	53.4	55.4	54.4	54.4	52.4	56.4	58.4	63.3	74.2	86.1
80°	45.5	44.5	46.5	43.5	42.5	40.6	43.5	46.5	54.4	61.3	63.3
82.5°	35.6	32.6	33.6	30.7	30.7	28.7	31.7	32.6	37.6	44.5	48.5
85°	21.8	17.8	19.8	16.8	18.8	16.8	17.8	18.8	22.8	27.7	26.7
87.5°	4.9	3.0	4.0	1.0	3.0	0.0	3.0	1.0	3.0	1.0	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):

	155°	165°	175°	180°
0°	386.8	386.8	386.8	386.8
2.5°	390.7	389.7	390.7	389.7
5°	395.7	395.7	396.7	397.7
7.5°	396.7	398.6	400.6	399.6
10°	389.7	387.8	389.7	387.8
12.5°	378.9	376.9	378.9	378.9
15°	377.9	376.9	377.9	377.9
17.5°	371.0	366.0	364.0	363.0
20°	351.2	342.3	340.3	337.3
22.5°	323.5	310.6	306.7	303.7
25°	289.8	272.0	265.1	261.2
27.5°	253.2	235.4	228.5	228.5
30°	224.5	210.7	203.8	203.8
32.5°	203.8	195.9	190.9	191.9
35°	187.0	182.0	179.0	180.0
37.5°	176.1	168.2	161.2	161.2
40°	165.2	155.3	146.4	146.4
42.5°	155.3	145.4	139.5	138.5
45°	145.4	138.5	133.5	132.6
47.5°	140.5	134.5	129.6	128.6
50°	138.5	132.6	125.6	125.6
52.5°	140.5	135.5	122.7	122.7
55°	144.4	141.5	122.7	120.7
57.5°	140.5	135.5	123.7	120.7
60°	131.6	123.7	121.7	119.7
62.5°	125.6	117.7	121.7	120.7
65°	120.7	114.7	123.7	121.7
67.5°	115.7	109.8	123.7	119.7
70°	109.8	103.9	112.8	105.8
71°	106.8	99.9	106.8	100.9
72.5°	101.9	94.0	96.0	92.0
75°	92.0	84.1	82.1	81.1
77.5°	76.2	67.3	64.3	63.3
80°	58.4	52.4	52.4	49.5
82.5°	43.5	38.6	37.6	32.6
85°	22.8	17.8	14.8	14.8
87.5°	0.0	0.0	0.0	0.0
90°	0.0	0.0	0.0	0.0

(END OF REPORT)