

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: P227572

Luminaire Tested: **ISS-AF-450-LED-E1-T2-7050**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P227572
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P29758)
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-T2-7050
Description: IMPACT ELITE LED QUATER SPHERE LUMINAIRE
LIGHT SQUARE WITH ACCULED OPTICS-TYPE II
Light Source: (16) 5000K CCT, 70 CRI LEDs
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2934 lumens
Efficiency: N/A
Efficacy: 115.9 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')
IES Classification: Type II - Medium - Non-Cutoff
BUG Rating: B1 - U0 - G1

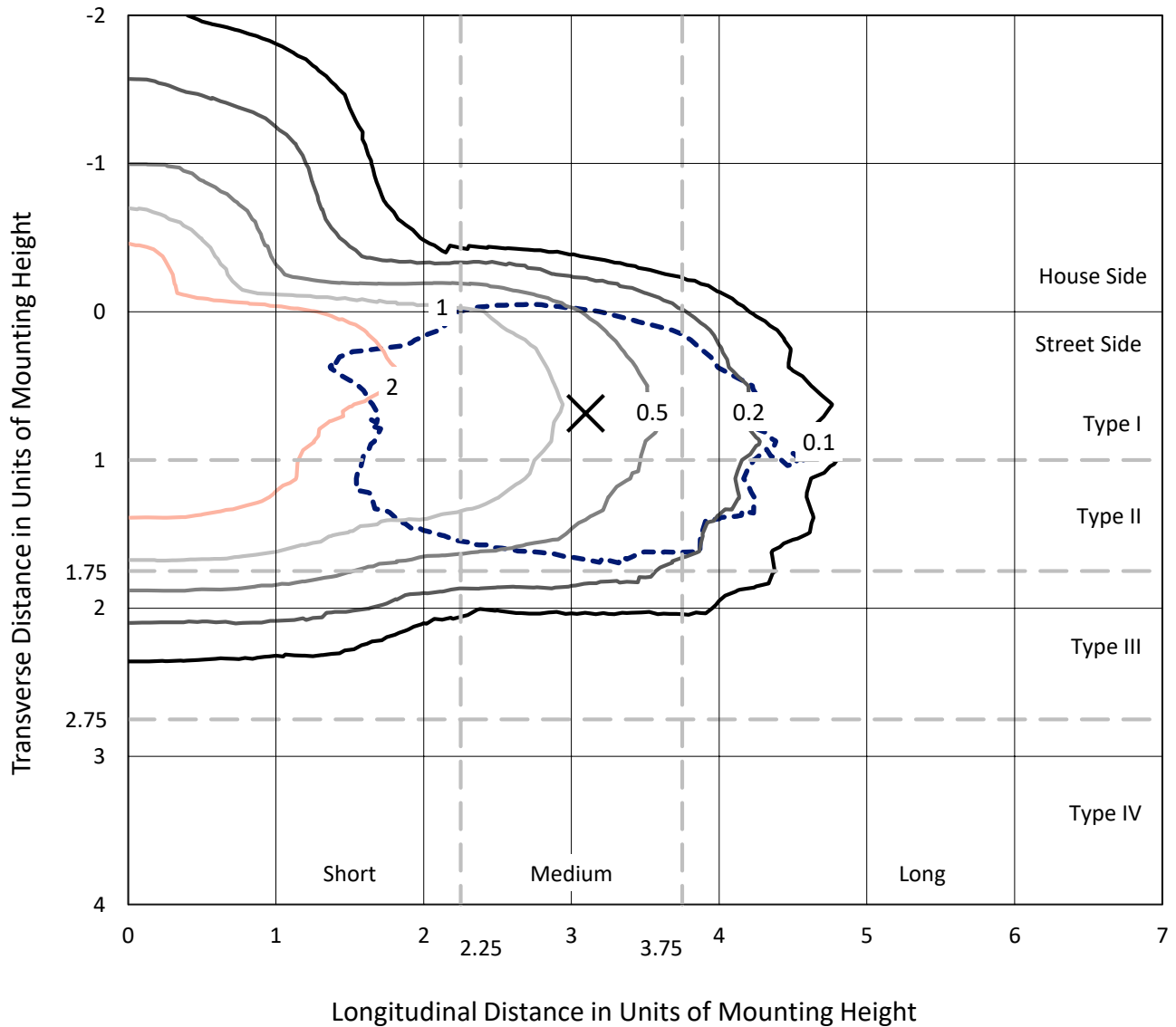
Input Watts (W): 25.31
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

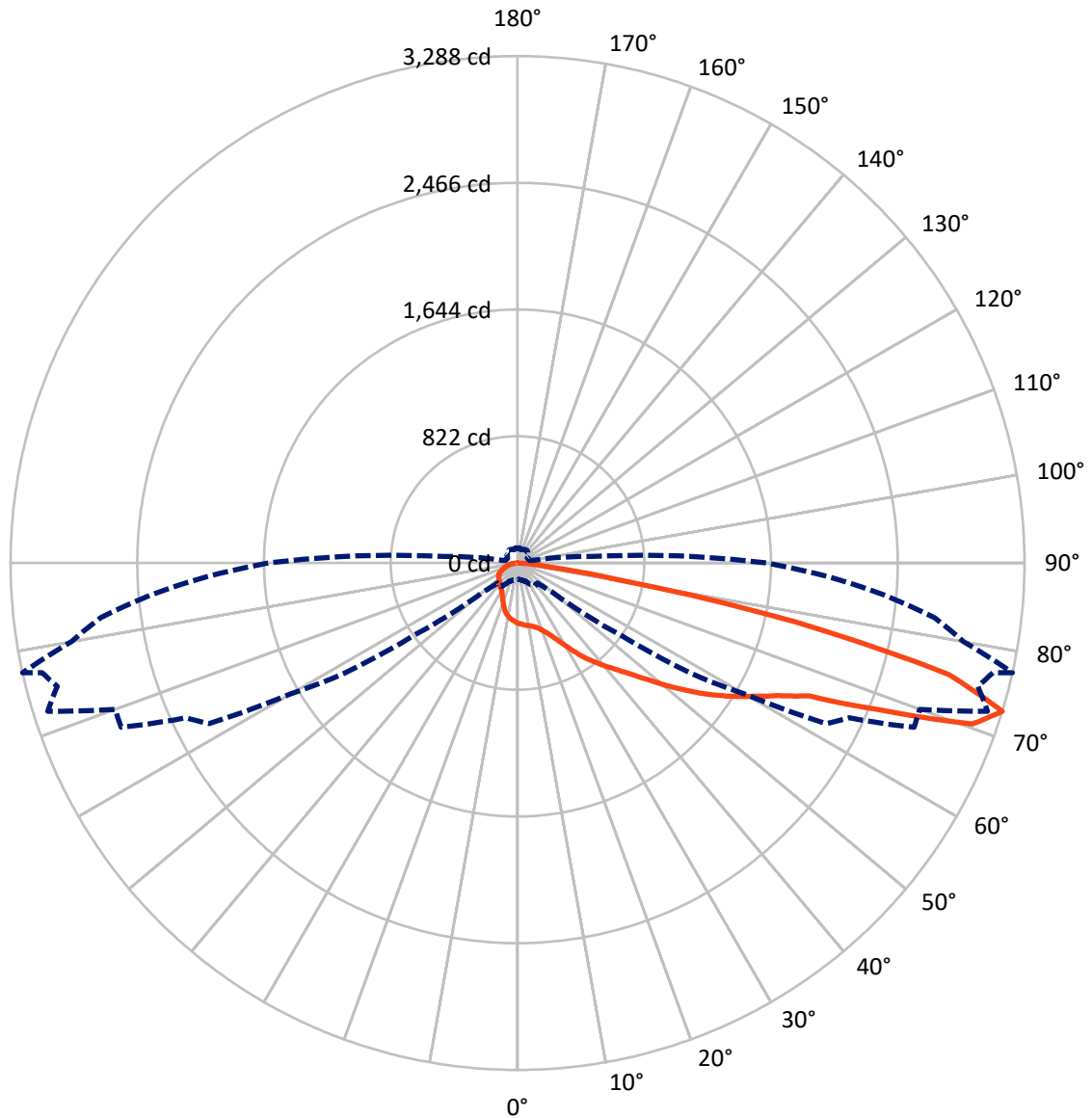
✕ Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 4.8 fc
 Type II - Medium - Non-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 77.5-Deg Lateral - - - Horizontal Cone Through 72.5-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	486.2	0.0	486.2
	% Fixture	16.6	0.0	16.6
Street Side	Lumens	2447.8	0.0	2447.8
	% Fixture	83.4	0.0	83.4
Total	Lumens	2934.0	0.0	2934.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	36.4	1.2
10°-20°	111.6	3.8
20°-30°	198.1	6.8
30°-40°	313.8	10.7
40°-50°	470.8	16.0
50°-60°	610.0	20.8
60°-70°	693.2	23.6
70°-80°	460.0	15.7
80°-90°	40.2	1.4
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°	2934.0	100.0
0°-180°	2934.0	100.0



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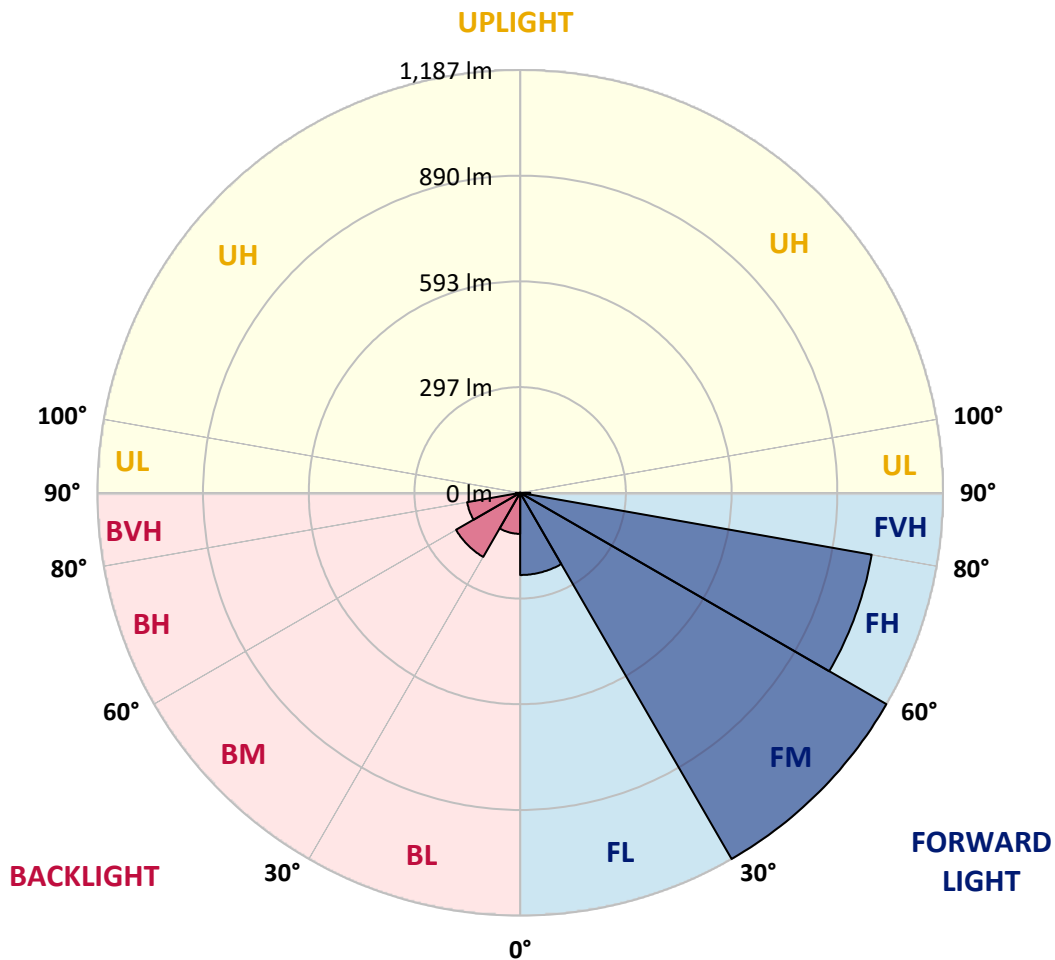
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	230.8	7.9			
FM	(30°-60°)	1186.9	40.5			
FH	(60°-80°)	1002.0	34.1			G1/1800
FVH	(80°-90°)	28.1	1.0			G1/100
BL	(0°-30°)	115.2	3.9	B1/500		
BM	(30°-60°)	207.7	7.1	B0/220		
BH	(60°-80°)	151.2	5.2	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 II Medium





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	37.5°	40°	42.5°	45°	47.5°	50°
0°	391.7	391.7	391.7	391.7	391.7	391.7	391.7	391.7	391.7	391.7	391.7
2.5°	424.4	422.4	421.4	419.4	417.5	416.5	413.5	411.5	414.5	413.5	413.5
5°	456.0	454.1	451.1	448.1	444.2	441.2	438.2	435.3	437.2	435.3	433.3
7.5°	481.8	479.8	475.8	472.9	468.9	464.9	461.0	460.0	458.0	455.1	454.1
10°	496.6	494.6	492.6	490.7	484.7	481.8	476.8	473.8	474.8	470.9	470.9
12.5°	510.4	508.5	507.5	507.5	502.5	499.6	497.6	494.6	496.6	490.7	488.7
15°	523.3	521.3	518.4	521.3	520.3	519.4	518.4	517.4	520.3	514.4	515.4
17.5°	544.1	543.1	537.2	533.2	534.2	537.2	539.1	538.1	538.1	535.2	536.2
20°	576.7	576.7	568.8	561.9	551.0	551.0	552.0	551.0	553.0	555.0	557.9
22.5°	601.5	599.5	596.5	590.6	578.7	568.8	568.8	564.9	567.8	568.8	574.8
25°	633.1	631.1	624.2	624.2	612.3	599.5	597.5	591.6	598.5	585.6	595.5
27.5°	671.7	669.7	660.8	656.9	650.9	635.1	631.1	632.1	639.1	620.3	630.1
30°	720.2	718.2	707.3	696.4	686.5	669.7	667.7	666.8	682.6	660.8	673.7
32.5°	781.5	781.5	769.6	754.8	735.0	712.3	704.3	705.3	727.1	703.4	725.1
35°	874.5	862.6	840.9	818.1	797.3	770.6	759.7	757.8	777.5	753.8	778.5
37.5°	933.8	925.9	906.1	889.3	866.6	840.9	832.9	835.9	852.7	818.1	853.7
40°	987.3	986.3	973.4	962.5	939.8	914.1	924.0	963.5	1008.0	940.8	941.8
42.5°	1022.9	1024.9	1023.9	1024.9	1012.0	985.3	1002.1	1057.5	1133.7	1094.1	1057.5
45°	1028.8	1035.7	1038.7	1058.5	1071.4	1055.5	1064.4	1122.8	1275.1	1336.5	1171.3
47.5°	1043.7	1050.6	1044.6	1068.4	1127.7	1126.7	1162.4	1184.1	1204.9	1214.8	1339.4
50°	1063.4	1076.3	1070.4	1090.1	1138.6	1166.3	1197.0	1224.7	1207.9	1145.5	1179.2
52.5°	1064.4	1079.3	1111.9	1131.7	1179.2	1173.2	1194.0	1179.2	1204.9	1140.6	1173.2
55°	977.4	980.3	1075.3	1175.2	1258.3	1241.5	1228.6	1195.0	1227.7	1147.5	1189.1
57.5°	839.9	849.8	948.7	1116.9	1294.9	1309.8	1305.8	1302.8	1328.6	1221.7	1267.2
60°	688.5	700.4	794.4	992.2	1218.7	1257.3	1310.7	1343.4	1409.7	1367.1	1442.3
62.5°	429.3	438.2	542.1	789.4	1075.3	1151.5	1229.6	1268.2	1364.2	1384.0	1511.6
65°	204.8	207.7	248.3	429.3	781.5	924.9	1040.7	1122.8	1240.5	1329.5	1501.7
67.5°	159.3	160.3	175.1	228.5	400.6	496.6	628.2	737.0	862.6	1106.0	1319.7
70°	127.6	127.6	139.5	168.2	248.3	261.2	294.8	331.4	384.8	580.7	753.8
72.5°	106.8	106.8	114.8	132.6	184.0	187.0	185.0	182.0	182.0	229.5	292.8
75°	90.0	89.0	94.0	105.8	136.5	140.5	138.5	131.6	123.7	123.7	139.5
77.5°	73.2	73.2	77.2	83.1	98.9	100.9	100.9	95.0	88.0	89.0	96.0
80°	57.4	57.4	60.3	64.3	69.2	68.3	68.3	62.3	57.4	56.4	60.3
82.5°	41.5	42.5	49.5	46.5	44.5	41.5	41.5	40.6	36.6	33.6	35.6
85°	12.9	13.8	23.7	27.7	22.8	18.8	17.8	14.8	15.8	12.9	14.8
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°	57.5°	60°	62.5°	65°	67.5°	70°	72.5°	75°	77°
0°	391.7	391.7	391.7	391.7	391.7	391.7	391.7	391.7	391.7	391.7	391.7
2.5°	408.6	410.5	406.6	406.6	401.6	404.6	399.7	400.6	395.7	397.7	397.7
5°	428.3	429.3	424.4	422.4	417.5	417.5	412.5	412.5	405.6	407.6	405.6
7.5°	447.1	447.1	442.2	438.2	433.3	431.3	425.4	422.4	416.5	415.5	412.5
10°	463.0	463.0	456.0	452.1	446.1	443.2	435.3	432.3	425.4	420.4	417.5
12.5°	482.8	480.8	472.9	468.9	459.0	458.0	446.1	444.2	434.3	431.3	426.4
15°	506.5	508.5	495.6	494.6	480.8	479.8	464.0	463.0	448.1	447.1	440.2
17.5°	532.2	536.2	525.3	524.3	507.5	507.5	488.7	487.7	467.9	466.9	458.0
20°	555.0	559.9	553.0	555.0	540.1	541.1	520.3	520.3	492.6	490.7	482.8
22.5°	575.7	585.6	579.7	590.6	575.7	582.7	555.0	559.9	527.3	523.3	511.4
25°	596.5	609.4	607.4	625.2	614.3	626.2	597.5	607.4	564.9	567.8	552.0
27.5°	617.3	634.1	632.1	657.8	653.9	677.6	652.9	663.8	617.3	620.3	602.4
30°	651.9	670.7	663.8	690.5	690.5	729.1	710.3	727.1	675.7	681.6	660.8
32.5°	698.4	720.2	699.4	734.0	732.0	782.5	767.7	796.3	745.9	753.8	728.1
35°	748.9	783.5	749.8	788.4	782.5	834.9	825.0	871.5	818.1	827.0	801.3
37.5°	815.1	856.7	812.2	845.8	819.1	879.4	873.5	936.8	882.4	905.2	874.5
40°	893.3	925.9	870.5	899.2	854.7	917.0	907.1	994.2	943.7	980.3	952.6
42.5°	965.5	988.3	915.1	950.7	897.2	960.6	942.7	1047.6	1004.1	1060.5	1029.8
45°	1030.8	1056.5	959.6	999.1	939.8	1009.0	978.4	1099.1	1069.4	1154.4	1123.8
47.5°	1123.8	1086.2	1000.1	1051.6	985.3	1061.5	1020.9	1159.4	1148.5	1269.2	1233.6
50°	1093.1	1117.8	1033.8	1087.2	1026.8	1119.8	1075.3	1231.6	1234.6	1393.8	1373.1
52.5°	1096.1	1137.6	1059.5	1133.7	1075.3	1200.9	1154.4	1318.7	1332.5	1514.5	1485.8
55°	1113.9	1175.2	1098.1	1198.0	1143.6	1291.0	1258.3	1412.6	1436.4	1628.3	1611.5
57.5°	1158.4	1243.5	1164.3	1294.9	1238.5	1393.8	1364.2	1509.6	1542.2	1742.1	1737.1
60°	1329.5	1430.4	1292.0	1436.4	1361.2	1510.6	1471.0	1611.5	1644.1	1850.9	1863.7
62.5°	1520.5	1695.6	1613.5	1763.8	1565.0	1716.3	1599.6	1737.1	1739.1	1967.6	2008.2
65°	1569.9	1839.0	1909.2	2189.2	2085.3	2240.6	1929.0	2021.0	1902.3	2180.3	2238.7
67.5°	1551.1	1880.6	2075.4	2391.0	2508.7	2779.8	2727.3	2695.7	2420.7	2620.5	2690.7
70°	1138.6	1487.8	1964.6	2285.2	2624.5	2802.5	3084.5	3113.2	3101.3	3073.6	3120.1
72.5°	518.4	813.2	1329.5	1695.6	2255.5	2375.2	2783.7	2775.8	3195.3	3091.4	3164.6
75°	203.8	313.6	633.1	946.7	1560.0	1707.4	2170.4	2055.6	2579.0	2426.6	2582.9
77.5°	111.8	140.5	237.4	406.6	851.7	929.9	1328.6	1136.6	1599.6	1335.5	1387.9
80°	67.3	84.1	108.8	154.3	362.1	382.8	566.8	457.0	653.9	496.6	481.8
82.5°	36.6	45.5	54.4	76.2	134.5	149.4	195.9	176.1	209.7	179.1	175.1
85°	14.8	19.8	20.8	30.7	44.5	51.4	62.3	67.3	82.1	75.2	73.2
87.5°	0.0	1.0	0.0	2.0	0.0	2.0	0.0	3.0	3.0	4.9	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°	391.7	391.7	391.7	391.7	391.7	391.7	391.7	391.7	391.7	391.7	391.7
2.5°	394.7	397.7	393.7	393.7	388.8	391.7	388.8	385.8	380.9	381.8	374.9
5°	401.6	403.6	398.7	396.7	393.7	392.7	386.8	380.9	373.9	373.9	366.0
7.5°	408.6	408.6	401.6	401.6	394.7	392.7	383.8	373.9	364.0	363.1	351.2
10°	412.5	411.5	402.6	402.6	392.7	391.7	380.9	366.0	352.2	348.2	331.4
12.5°	420.4	419.4	408.6	406.6	393.7	393.7	377.9	358.1	338.3	331.4	307.7
15°	430.3	431.3	418.5	415.5	400.6	399.7	377.9	348.2	321.5	310.6	281.9
17.5°	446.1	447.1	429.3	426.4	408.6	405.6	378.9	336.3	298.8	286.9	261.2
20°	466.9	464.0	440.2	439.2	415.5	412.5	377.9	318.5	276.0	264.1	241.4
22.5°	492.6	489.7	459.0	456.0	428.3	423.4	376.9	299.7	255.2	242.4	227.5
25°	528.3	524.3	486.7	482.8	448.1	440.2	375.9	280.0	237.4	227.5	218.6
27.5°	572.8	564.9	519.4	515.4	468.9	459.0	372.0	257.2	219.6	212.7	208.7
30°	626.2	619.3	560.9	555.0	496.6	483.7	368.0	236.4	206.8	203.8	200.8
32.5°	689.5	682.6	611.4	604.4	532.2	513.4	361.1	219.6	198.8	198.8	194.9
35°	755.8	749.8	665.8	660.8	571.8	547.1	352.2	204.8	191.9	191.9	188.0
37.5°	815.1	820.1	725.1	721.2	611.4	580.7	342.3	194.9	186.0	184.0	180.0
40°	879.4	891.3	780.5	783.5	652.9	616.3	330.4	187.0	179.1	177.1	176.1
42.5°	944.7	967.5	838.9	849.8	694.4	652.9	321.5	182.0	176.1	172.1	171.1
45°	1025.8	1058.5	911.1	931.9	742.9	697.4	318.5	176.1	167.2	162.2	159.3
47.5°	1126.7	1170.3	1000.1	1023.9	807.2	750.8	324.5	174.1	161.2	155.3	149.4
50°	1246.4	1288.0	1106.0	1115.9	879.4	809.2	337.3	177.1	159.3	150.4	141.5
52.5°	1373.1	1404.7	1217.8	1206.9	954.6	866.6	352.2	178.1	154.3	145.4	134.5
55°	1503.7	1521.5	1321.6	1292.9	1022.9	924.0	372.0	177.1	150.4	140.5	126.6
57.5°	1631.3	1637.2	1413.6	1385.9	1090.1	992.2	396.7	174.1	144.4	134.5	119.7
60°	1755.9	1765.8	1515.5	1489.8	1163.4	1080.3	432.3	169.2	136.5	129.6	113.8
62.5°	1892.4	1925.1	1637.2	1641.2	1264.3	1217.8	499.6	163.2	128.6	120.7	104.9
65°	2078.4	2203.0	1838.0	1931.0	1458.1	1476.9	628.2	146.4	117.7	107.8	96.9
67.5°	2544.3	2680.9	2325.7	2363.3	1912.2	1800.4	709.3	124.6	103.9	96.9	90.0
70°	3128.0	3030.1	2777.8	2550.3	2177.3	1850.9	624.2	104.9	92.0	88.0	84.1
72.5°	3288.2	2937.1	2729.3	2388.0	2013.1	1614.4	477.8	90.0	82.1	80.1	77.2
75°	2889.6	2381.1	2393.0	1897.4	1668.9	1230.6	326.5	77.2	71.2	70.2	69.2
77.5°	1847.9	1223.7	1489.8	937.8	963.5	569.8	159.3	64.3	61.3	61.3	59.4
80°	656.9	407.6	461.0	295.8	269.1	181.0	86.1	51.4	49.5	50.5	49.5
82.5°	196.9	156.3	153.3	119.7	93.0	76.2	47.5	39.6	37.6	38.6	36.6
85°	79.1	61.3	51.4	39.6	32.6	29.7	25.7	26.7	23.7	25.7	22.8
87.5°	4.9	4.0	3.0	4.0	0.0	2.0	4.9	4.0	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°	391.7	391.7	391.7	391.7	391.7	391.7	391.7	391.7	391.7	391.7	391.7
2.5°	379.9	372.9	375.9	372.9	374.9	369.0	371.0	366.0	366.0	365.0	360.1
5°	367.0	360.1	359.1	352.2	353.2	345.2	344.3	335.4	335.4	327.4	312.6
7.5°	349.2	338.3	337.3	323.5	322.5	311.6	307.7	297.8	296.8	287.9	279.0
10°	326.5	309.6	306.7	288.9	289.8	278.0	277.0	270.1	270.1	266.1	266.1
12.5°	300.7	281.9	280.0	266.1	267.1	259.2	260.2	256.2	258.2	260.2	267.1
15°	277.0	262.1	260.2	251.3	252.3	250.3	253.2	253.2	256.2	261.2	273.0
17.5°	257.2	244.3	245.3	241.4	245.3	244.3	250.3	249.3	255.2	261.2	276.0
20°	239.4	232.5	235.4	234.5	239.4	239.4	244.3	245.3	250.3	258.2	275.0
22.5°	227.5	225.5	228.5	228.5	232.5	233.5	238.4	241.4	244.3	252.3	267.1
25°	220.6	219.6	222.6	223.6	226.5	227.5	232.5	232.5	237.4	242.4	250.3
27.5°	210.7	208.7	212.7	212.7	216.6	215.7	221.6	219.6	224.6	226.5	228.5
30°	203.8	200.8	203.8	202.8	205.8	202.8	205.8	202.8	205.8	205.8	202.8
32.5°	196.9	193.9	194.9	190.9	193.9	189.9	190.9	187.0	188.9	187.0	188.0
35°	189.9	186.0	186.0	181.0	181.0	176.1	178.1	174.1	178.1	181.0	180.0
37.5°	180.0	177.1	177.1	173.1	175.1	173.1	177.1	175.1	176.1	172.1	165.2
40°	174.1	176.1	175.1	178.1	176.1	173.1	170.1	164.2	163.2	161.2	157.3
42.5°	165.2	167.2	162.2	166.2	163.2	164.2	162.2	159.3	157.3	155.3	151.4
45°	152.3	152.3	148.4	154.3	151.4	157.3	155.3	155.3	153.3	150.4	147.4
47.5°	141.5	142.5	138.5	143.4	141.5	149.4	148.4	151.4	151.4	149.4	141.5
50°	134.5	132.6	129.6	134.5	133.5	140.5	141.5	147.4	146.4	147.4	140.5
52.5°	128.6	124.6	121.7	124.6	124.6	130.6	132.6	139.5	140.5	142.5	138.5
55°	121.7	116.7	114.8	116.7	116.7	122.7	125.6	130.6	133.5	139.5	137.5
57.5°	115.7	108.8	106.8	108.8	109.8	115.7	118.7	123.7	127.6	135.5	134.5
60°	108.8	102.9	100.9	103.9	104.9	110.8	113.8	118.7	121.7	130.6	130.6
62.5°	100.9	96.0	96.0	96.9	98.9	104.9	106.8	113.8	114.8	125.6	126.6
65°	94.0	91.0	91.0	92.0	94.0	98.9	99.9	106.8	107.8	118.7	121.7
67.5°	88.0	86.1	86.1	87.1	88.0	92.0	93.0	99.9	101.9	111.8	116.7
70°	82.1	80.1	79.1	79.1	82.1	85.1	87.1	94.0	95.0	103.9	109.8
72.5°	75.2	73.2	73.2	72.2	75.2	77.2	81.1	85.1	87.1	96.0	99.9
75°	68.3	66.3	66.3	65.3	67.3	71.2	72.2	76.2	77.2	85.1	89.0
77.5°	59.4	57.4	57.4	57.4	59.4	60.3	61.3	65.3	67.3	74.2	78.2
80°	49.5	47.5	48.5	47.5	50.5	46.5	49.5	53.4	55.4	59.4	57.4
82.5°	37.6	34.6	35.6	35.6	36.6	33.6	35.6	37.6	39.6	42.5	41.5
85°	23.7	20.8	22.8	20.8	22.8	19.8	21.8	21.8	23.7	21.8	20.8
87.5°	4.9	2.0	4.9	2.0	5.9	0.0	3.0	0.0	2.0	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°	391.7	391.7	391.7	391.7
2.5°	355.1	351.2	349.2	348.2
5°	304.7	297.8	295.8	293.8
7.5°	274.0	272.0	272.0	271.1
10°	268.1	271.1	272.0	272.0
12.5°	275.0	280.0	283.9	283.9
15°	283.9	292.8	297.8	297.8
17.5°	290.8	302.7	307.7	308.6
20°	291.8	303.7	310.6	311.6
22.5°	282.9	290.8	295.8	295.8
25°	260.2	264.1	267.1	267.1
27.5°	231.5	230.5	229.5	233.5
30°	201.8	199.8	195.9	199.8
32.5°	190.9	184.0	174.1	177.1
35°	174.1	172.1	167.2	168.2
37.5°	168.2	185.0	184.0	185.0
40°	161.2	182.0	181.0	183.0
42.5°	155.3	167.2	155.3	156.3
45°	144.4	149.4	139.5	139.5
47.5°	139.5	137.5	133.5	132.6
50°	135.5	135.5	133.5	131.6
52.5°	132.6	130.6	137.5	136.5
55°	128.6	126.6	131.6	131.6
57.5°	125.6	120.7	128.6	128.6
60°	122.7	117.7	125.6	125.6
62.5°	120.7	114.8	124.6	123.7
65°	117.7	111.8	124.6	122.7
67.5°	113.8	105.8	122.7	119.7
70°	105.8	98.9	115.7	107.8
72.5°	97.9	90.0	98.9	92.0
75°	86.1	79.1	80.1	79.1
77.5°	72.2	64.3	62.3	63.3
80°	54.4	49.5	47.5	47.5
82.5°	39.6	33.6	34.6	28.7
85°	17.8	12.9	9.9	9.9
87.5°	0.0	0.0	0.0	0.0
90°	0.0	0.0	0.0	0.0

(END OF REPORT)