

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: P228096

Luminaire Tested: **ISS-AF-450-LED-E1-SL2-8030**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P228096
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P29761)
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-SL2-8030
Description: IMPACT ELITE LED QUATER SPHERE LUMINAIRE
LIGHT SQUARE WITH ACCULED OPTICS-TYPE II W/SPILL CONTROL
Light Source: (16) 3000K CCT, 80 CRI LEDs
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2312 lumens
Efficiency: N/A
Efficacy: 91.3 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')
IES Classification: Type III - Medium - Non-Cutoff
BUG Rating: B1 - U0 - G1

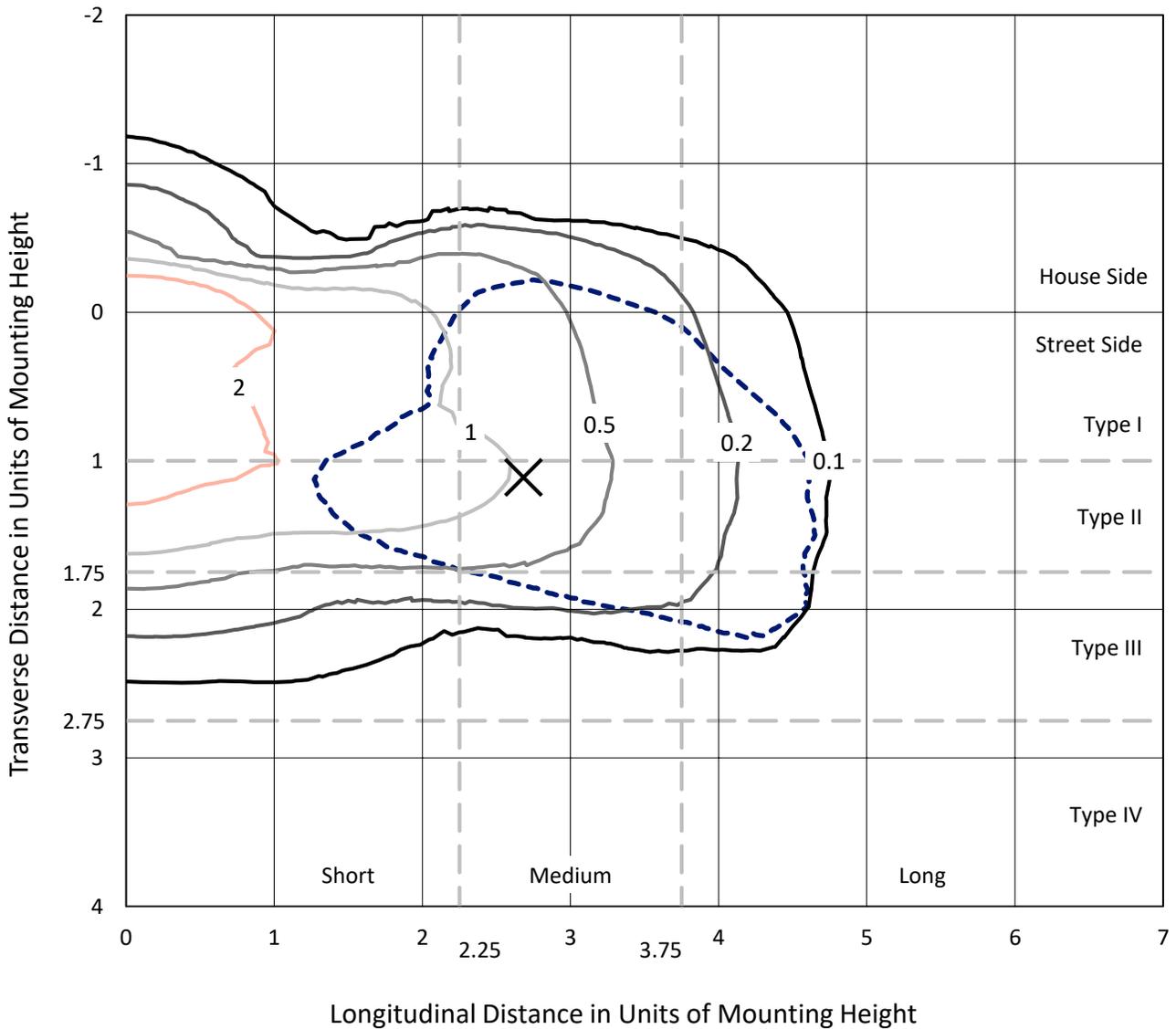
Input Watts (W): 25.31
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

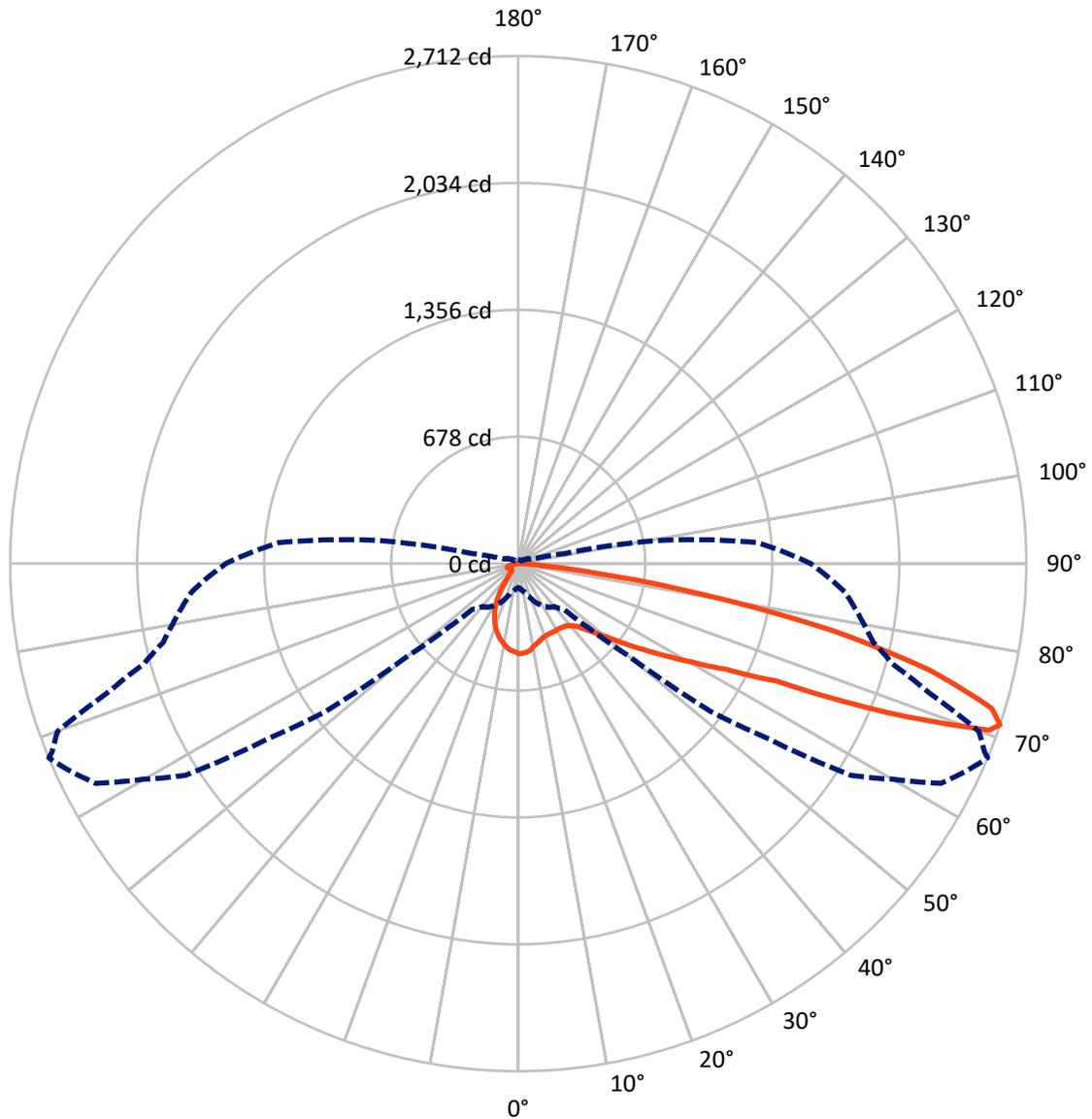
× Max cd
 - - - 1/2 Max cd



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

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Luminous Intensity Polar Plot



— Vertical Plane Through 67.5-Deg Lateral - - - Horizontal Cone Through 71-Deg Vertical

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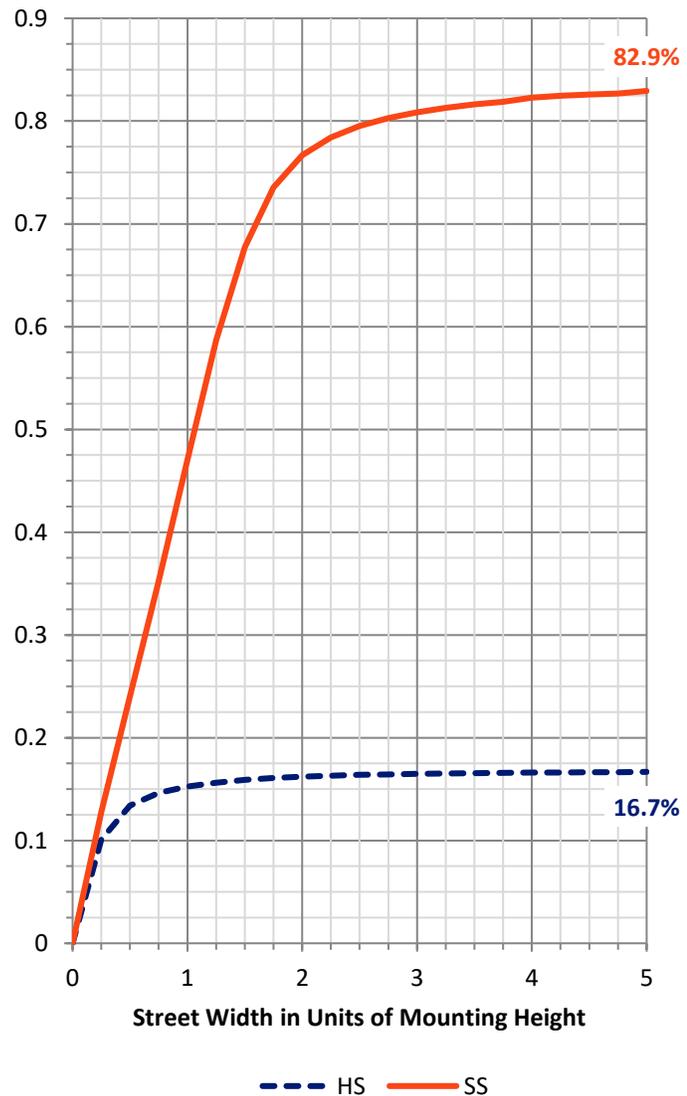
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	389.6	0.0	389.6
	% Fixture	16.9	0.0	16.9
Street Side	Lumens	1922.4	0.0	1922.4
	% Fixture	83.1	0.0	83.1
Total	Lumens	2312.0	0.0	2312.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	42.0	1.8
10°-20°	100.6	4.4
20°-30°	136.8	5.9
30°-40°	186.9	8.1
40°-50°	281.7	12.2
50°-60°	446.4	19.3
60°-70°	591.0	25.6
70°-80°	470.8	20.4
80°-90°	55.8	2.4
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°	2312.0	100.0
0°-180°	2312.0	100.0



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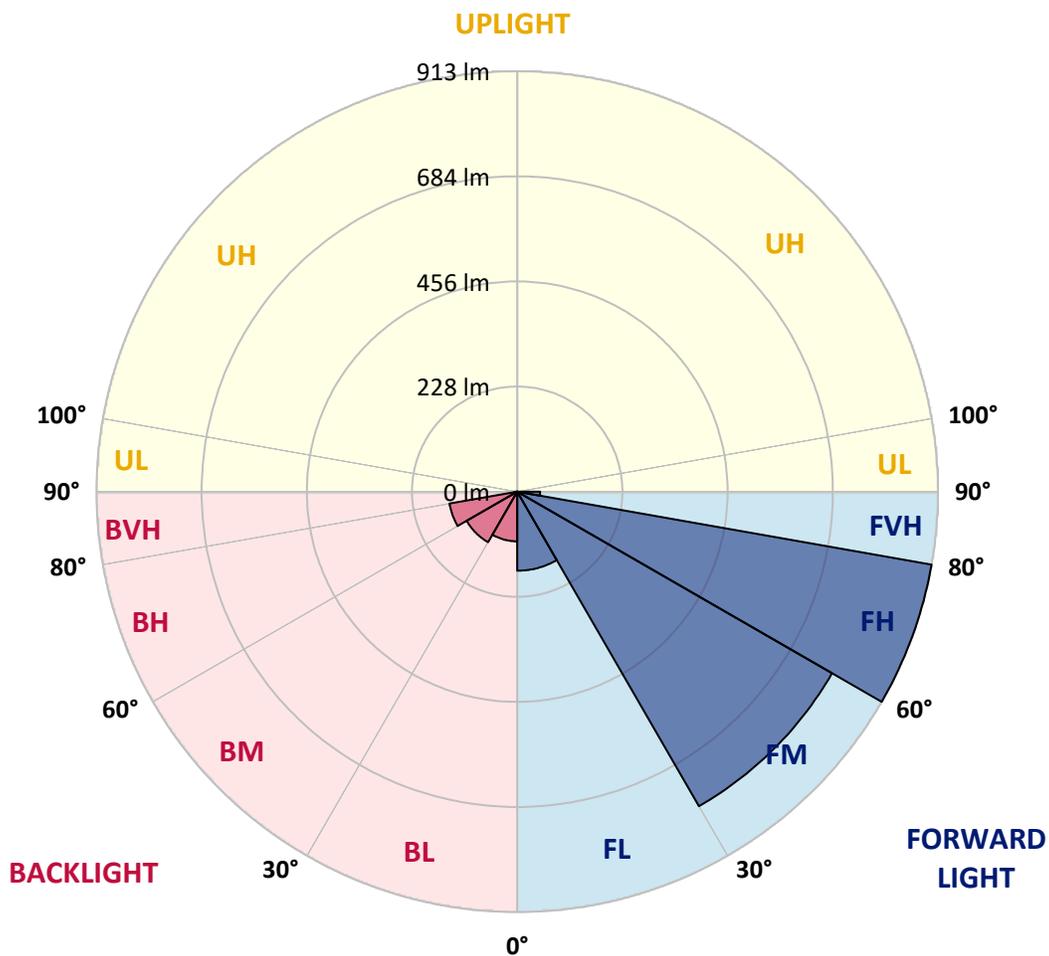
CATALOG NUMBER: ISS-AF-450-LED-E1-SL2-8030

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	171.5	7.4			
FM (30°-60°)	788.4	34.1			
FH (60°-80°)	912.7	39.5			G1/1800
FVH (80°-90°)	49.8	2.2			G1/100
BL (0°-30°)	107.8	4.7	B0/110		
BM (30°-60°)	126.6	5.5	B0/220		
BH (60°-80°)	149.1	6.4	B1/500		G1/500
BVH (80°-90°)	6.0	0.3			G0/10
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°	481.8	481.8	481.8	481.8	481.8	481.8	481.8	481.8	481.8	481.8	481.8
2.5°	472.9	471.3	471.3	473.7	477.8	474.5	477.0	477.0	477.8	480.2	481.0
5°	438.2	435.0	438.2	441.4	450.3	448.7	451.1	453.5	458.4	459.2	465.7
7.5°	406.7	405.1	407.5	414.0	425.3	422.1	425.3	428.5	434.2	436.6	443.1
10°	382.5	380.1	383.3	388.2	399.5	398.7	400.3	404.3	410.8	412.4	420.5
12.5°	364.8	364.8	366.4	372.8	382.5	381.7	386.6	389.0	394.6	396.2	405.1
15°	355.9	353.5	356.7	362.4	372.0	372.0	375.3	377.7	385.8	386.6	394.6
17.5°	347.8	348.6	349.4	355.9	364.8	363.2	367.2	368.8	377.7	376.1	385.8
20°	347.8	349.4	348.6	352.7	359.1	355.9	360.7	361.5	371.2	368.8	379.3
22.5°	357.5	359.1	356.7	355.9	358.3	355.9	358.3	359.9	367.2	365.6	375.3
25°	374.5	377.7	374.5	368.8	366.4	359.9	361.5	364.0	369.6	365.6	374.5
27.5°	401.1	403.5	397.9	392.2	380.9	373.7	371.2	370.4	376.9	370.4	377.7
30°	431.8	435.0	430.1	419.7	403.5	391.4	386.6	384.1	388.2	378.5	385.8
32.5°	464.8	468.1	464.8	456.8	435.0	417.2	410.8	405.1	408.4	395.4	398.7
35°	498.7	502.0	505.2	500.4	472.1	451.9	441.4	436.6	435.8	419.7	420.5
37.5°	528.6	531.8	542.3	547.2	521.3	493.9	484.2	473.7	474.5	451.9	451.9
40°	564.9	569.0	582.7	594.0	577.0	543.9	532.6	521.3	521.3	491.5	492.3
42.5°	614.1	619.0	627.9	643.2	637.5	603.7	591.5	576.2	577.8	542.3	541.5
45°	683.6	686.8	686.8	696.5	697.3	665.0	656.9	641.6	644.8	599.6	602.0
47.5°	773.9	769.9	753.8	759.4	765.9	732.0	724.7	715.0	719.1	670.6	675.5
50°	857.9	854.6	821.6	823.2	846.6	811.9	809.4	797.3	803.0	754.6	761.8
52.5°	889.3	883.7	850.6	868.4	933.7	914.4	918.4	912.7	916.0	864.3	862.7
55°	853.8	853.8	833.7	865.9	999.1	1009.6	1042.7	1055.6	1069.3	1017.7	1006.4
57.5°	755.4	761.8	765.1	822.4	988.6	1033.8	1096.7	1151.6	1221.8	1218.6	1235.6
60°	592.4	603.7	622.2	715.8	943.4	1017.7	1099.2	1181.5	1278.3	1340.5	1432.5
62.5°	415.6	425.3	440.6	505.2	811.9	939.4	1057.2	1183.9	1307.4	1405.0	1526.1
65°	282.5	292.1	324.4	359.9	489.9	675.5	855.4	1065.3	1253.3	1434.9	1597.9
67.5°	203.4	209.0	234.0	293.8	326.0	359.9	426.9	673.9	905.5	1271.1	1509.1
70°	152.5	158.2	180.8	246.9	286.5	295.4	311.5	355.1	414.0	714.2	1026.5
71°	127.5	135.6	163.0	232.4	284.9	292.1	299.4	325.2	344.6	505.2	761.8
72.5°	89.6	95.2	121.1	214.7	273.6	290.5	307.5	306.7	305.1	344.6	460.8
75°	57.3	57.3	57.3	121.1	292.1	281.7	288.1	322.8	305.1	289.7	303.4
77.5°	45.2	44.4	42.0	60.5	228.4	285.7	302.6	311.5	328.5	302.6	288.9
80°	33.9	33.1	33.1	37.9	105.7	184.8	255.8	284.1	296.2	322.0	293.8
82.5°	17.8	17.8	19.4	22.6	39.5	64.6	132.4	217.9	243.7	245.3	247.8
85°	5.6	4.8	6.5	10.5	16.9	21.0	37.1	88.0	130.7	158.2	167.1
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.4	3.2	5.6	7.3
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°	68°	70°	72.5°	75°
0°	481.8	481.8	481.8	481.8	481.8	481.8	481.8	481.8	481.8	481.8	481.8
2.5°	478.6	481.8	479.4	482.6	478.6	483.4	479.4	481.8	482.6	479.4	483.4
5°	461.6	471.3	468.1	475.3	472.1	478.6	475.3	481.8	481.8	479.4	485.0
7.5°	440.6	450.3	451.1	458.4	458.4	466.5	466.5	472.9	476.1	476.1	484.2
10°	419.7	428.5	430.1	438.2	439.8	449.5	449.5	458.4	464.8	467.3	477.0
12.5°	403.5	414.8	414.8	423.7	422.1	436.6	438.2	446.3	452.7	458.4	471.3
15°	393.8	404.3	404.3	413.2	411.6	426.1	428.5	436.6	446.3	449.5	467.3
17.5°	384.1	394.6	392.2	404.3	403.5	419.7	418.0	430.1	438.2	443.1	463.2
20°	376.1	388.2	386.6	398.7	395.4	413.2	413.2	425.3	433.4	437.4	460.8
22.5°	372.0	385.0	381.7	393.8	391.4	409.2	409.2	421.3	430.1	436.6	460.0
25°	372.0	383.3	380.1	393.8	389.8	409.2	408.4	420.5	429.3	435.0	460.8
27.5°	373.7	385.0	382.5	395.4	392.2	409.2	410.8	421.3	430.1	436.6	462.4
30°	379.3	389.8	384.1	396.2	393.8	410.0	409.2	420.5	429.3	437.4	462.4
32.5°	391.4	397.1	389.8	400.3	395.4	411.6	411.6	419.7	430.1	439.8	462.4
35°	408.4	412.4	401.1	408.4	399.5	415.6	414.8	423.7	431.8	439.8	464.0
37.5°	432.6	437.4	419.7	426.1	411.6	424.5	421.3	431.8	439.8	444.7	472.1
40°	468.9	470.5	447.1	451.9	431.8	443.1	435.0	449.5	453.5	456.8	484.2
42.5°	513.3	514.9	485.0	488.3	462.4	472.1	458.4	473.7	479.4	478.6	508.4
45°	568.1	569.0	535.1	537.5	507.6	515.7	498.7	511.7	515.7	513.3	543.9
47.5°	627.9	634.3	596.4	599.6	568.1	572.2	551.2	565.7	565.7	563.3	594.8
50°	707.0	716.6	672.3	677.1	640.8	644.0	619.8	635.1	633.5	627.1	662.6
52.5°	805.4	814.3	767.5	773.9	735.2	736.8	707.0	724.7	719.9	709.4	750.5
55°	925.7	926.5	882.9	888.5	849.8	847.4	810.3	832.0	824.8	810.3	848.2
57.5°	1118.5	1095.1	1023.3	1021.7	979.7	976.5	928.9	955.5	943.4	912.7	962.8
60°	1429.2	1436.5	1253.3	1225.1	1146.8	1132.3	1069.3	1100.0	1085.4	1035.4	1084.6
62.5°	1604.4	1719.8	1708.5	1606.8	1405.0	1350.2	1243.6	1279.9	1242.0	1168.6	1214.6
65°	1734.3	1890.9	1981.2	2078.9	1988.5	1764.2	1512.4	1563.2	1470.4	1330.8	1375.2
67.5°	1782.7	1971.6	2162.0	2300.8	2395.3	2412.2	2120.9	2134.6	1906.2	1627.0	1632.6
70°	1529.3	1807.7	2180.6	2356.5	2543.7	2635.7	2666.4	2651.9	2504.2	2108.8	1957.8
71°	1296.1	1633.4	2106.3	2302.4	2542.1	2630.9	2711.6	2684.2	2615.6	2300.0	2068.4
72.5°	878.0	1301.7	1889.2	2137.8	2457.4	2522.0	2643.0	2594.6	2580.1	2442.9	2171.7
75°	413.2	648.8	1229.1	1605.2	2079.7	2141.8	2268.5	2208.8	2170.9	2217.7	2066.0
77.5°	304.2	354.3	674.7	997.5	1512.4	1600.3	1709.3	1635.8	1587.4	1634.2	1528.5
80°	276.8	278.4	349.4	526.2	902.3	954.7	995.9	936.1	862.7	859.5	761.8
82.5°	255.0	241.3	226.8	278.4	462.4	439.8	406.7	376.9	293.0	234.8	169.5
85°	162.2	177.5	161.4	152.5	184.0	151.7	120.2	115.4	81.5	54.9	50.8
87.5°	11.3	12.9	15.3	17.8	21.8	17.8	11.3	13.7	8.1	0.0	4.0
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):

	77.5°	80°	85°	90°	95°	100°	102.5°	105°	107.5°	110°	112.5°
0°	481.8	481.8	481.8	481.8	481.8	481.8	481.8	481.8	481.8	481.8	481.8
2.5°	477.8	481.8	483.4	482.6	481.0	479.4	473.7	477.8	472.1	476.1	471.3
5°	480.2	485.8	486.6	485.0	483.4	480.2	470.5	476.1	469.7	472.9	465.7
7.5°	479.4	488.3	489.1	487.4	484.2	478.6	468.9	472.9	462.4	464.8	455.2
10°	475.3	488.3	489.1	485.0	480.2	471.3	460.0	461.6	451.1	451.1	438.2
12.5°	471.3	486.6	490.7	485.0	477.0	464.8	451.9	450.3	438.2	437.4	422.9
15°	471.3	488.3	493.9	486.6	474.5	457.6	442.2	439.0	425.3	421.3	405.1
17.5°	470.5	488.3	496.3	486.6	472.1	450.3	431.0	427.7	410.0	403.5	385.0
20°	469.7	489.9	497.9	485.0	464.8	441.4	419.7	413.2	393.8	383.3	361.5
22.5°	468.9	493.1	499.5	483.4	460.0	430.1	407.5	396.2	373.7	359.9	334.1
25°	472.9	497.1	500.4	481.8	452.7	418.0	393.8	378.5	353.5	335.7	305.1
27.5°	474.5	501.2	502.0	478.6	443.9	405.1	379.3	358.3	330.1	308.3	273.6
30°	479.4	502.0	499.5	472.1	433.4	389.0	362.4	336.5	305.1	276.8	235.7
32.5°	481.0	504.4	497.9	464.8	422.9	372.8	343.0	313.1	275.2	242.1	192.1
35°	484.2	506.0	496.3	460.8	411.6	355.9	322.8	288.9	245.3	203.4	146.1
37.5°	489.1	513.3	500.4	459.2	405.9	341.4	300.2	263.9	209.8	160.6	96.8
40°	501.2	527.8	507.6	461.6	401.9	329.3	278.4	238.1	169.5	118.6	67.0
42.5°	525.4	552.8	526.2	473.7	404.3	318.8	255.8	210.6	128.3	84.7	55.7
45°	561.7	585.1	556.8	493.9	414.0	313.1	234.8	182.4	92.0	67.8	50.8
47.5°	615.0	637.5	602.0	526.2	431.0	310.7	213.1	152.5	71.0	61.3	49.2
50°	685.2	711.8	667.4	577.0	462.4	313.1	189.7	124.3	62.1	59.7	48.4
52.5°	771.5	797.3	753.0	652.1	514.1	326.8	164.6	108.1	58.9	58.9	47.6
55°	869.2	905.5	861.9	756.2	594.0	356.7	149.3	102.5	58.9	59.7	46.8
57.5°	984.6	1015.2	976.5	856.3	690.0	405.9	150.9	108.1	58.9	59.7	46.0
60°	1097.6	1135.5	1091.1	983.8	799.8	480.2	184.0	137.2	61.3	62.1	46.0
62.5°	1215.4	1244.4	1208.1	1095.1	924.0	572.2	250.2	198.5	71.0	73.4	49.2
65°	1344.5	1392.1	1354.2	1261.4	1100.0	719.1	376.1	297.8	104.9	85.5	54.1
67.5°	1568.0	1587.4	1568.9	1484.1	1305.8	840.1	447.9	302.6	104.9	83.1	60.5
70°	1870.7	1827.1	1744.0	1585.8	1327.6	753.8	321.2	184.8	89.6	79.1	63.8
71°	1940.9	1873.9	1751.2	1560.8	1282.4	680.3	249.4	146.1	83.9	77.5	63.8
72.5°	1983.7	1883.6	1698.0	1487.3	1193.6	535.9	164.6	114.6	76.7	73.4	61.3
75°	1928.0	1743.2	1499.5	1287.2	977.3	278.4	103.3	87.2	65.4	63.8	53.3
77.5°	1530.9	1368.7	1106.4	935.3	628.7	123.5	74.2	66.2	51.6	50.0	41.2
80°	714.2	573.0	335.7	288.1	197.7	72.6	50.8	45.2	37.1	35.5	29.1
82.5°	129.9	97.7	75.9	73.4	66.2	42.8	29.9	27.4	23.4	22.6	18.6
85°	44.4	42.8	32.3	32.3	33.1	22.6	16.9	16.1	12.1	12.1	8.1
87.5°	0.8	4.0	4.0	5.6	4.8	4.0	1.6	2.4	0.8	2.4	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):

	115°	117.5°	120°	122.5°	125°	127.5°	130°	135°	145°	155°	165°
0°	481.8	481.8	481.8	481.8	481.8	481.8	481.8	481.8	481.8	481.8	481.8
2.5°	475.3	468.9	474.5	468.9	472.1	465.7	469.7	467.3	467.3	464.8	463.2
5°	468.1	460.0	464.0	457.6	460.8	451.1	453.5	449.5	441.4	436.6	430.1
7.5°	457.6	445.5	448.7	439.0	441.4	428.5	431.0	423.7	408.4	398.7	389.0
10°	439.0	427.7	428.5	416.4	415.6	402.7	400.3	390.6	368.0	351.9	339.0
12.5°	420.5	407.5	405.9	391.4	389.0	373.7	370.4	355.1	322.0	290.5	270.4
15°	401.1	385.0	380.1	364.8	355.9	343.0	334.1	311.5	263.9	222.7	196.1
17.5°	379.3	358.3	351.1	333.3	320.4	301.0	288.1	257.4	196.1	151.7	133.2
20°	351.1	328.5	315.5	293.0	276.0	252.6	236.5	196.9	130.7	108.1	105.7
22.5°	319.6	293.0	276.8	248.6	227.6	202.6	176.7	133.2	92.8	88.0	91.2
25°	286.5	253.4	232.4	197.7	169.5	140.4	116.2	88.8	75.9	75.1	79.9
27.5°	246.9	209.0	179.2	138.0	112.2	89.6	79.1	70.2	64.6	65.4	70.2
30°	203.4	154.1	122.7	86.4	75.1	65.4	63.8	60.5	58.1	59.7	62.9
32.5°	151.7	98.5	79.1	62.1	61.3	55.7	57.3	55.7	54.9	55.7	58.1
35°	102.5	65.4	62.1	53.3	54.9	50.8	53.3	52.5	51.6	51.6	53.3
37.5°	71.0	54.1	55.7	49.2	51.6	48.4	50.8	50.0	49.2	48.4	49.2
40°	58.9	49.2	51.6	46.8	49.2	46.0	48.4	47.6	46.8	45.2	45.2
42.5°	54.1	46.8	49.2	44.4	47.6	43.6	46.8	45.2	43.6	42.0	42.8
45°	52.5	45.2	47.6	42.8	46.0	42.0	44.4	43.6	40.4	39.5	40.4
47.5°	50.8	44.4	46.8	42.0	44.4	40.4	42.8	41.2	37.9	37.1	37.9
50°	50.0	42.8	45.2	40.4	42.8	39.5	41.2	39.5	36.3	35.5	35.5
52.5°	49.2	42.0	44.4	38.7	41.2	36.3	38.7	37.1	33.9	33.1	33.1
55°	49.2	41.2	42.8	37.1	39.5	34.7	36.3	34.7	33.1	31.5	31.5
57.5°	48.4	39.5	42.0	35.5	37.1	33.1	34.7	33.1	30.7	29.9	29.9
60°	48.4	38.7	41.2	34.7	36.3	31.5	33.1	31.5	29.1	28.2	28.2
62.5°	50.8	40.4	42.0	35.5	36.3	31.5	32.3	29.9	27.4	27.4	26.6
65°	55.7	45.2	45.2	37.1	37.1	31.5	32.3	29.1	25.8	25.8	25.8
67.5°	60.5	50.0	49.2	39.5	38.7	31.5	31.5	27.4	24.2	24.2	24.2
70°	63.8	52.5	50.8	40.4	38.7	30.7	29.9	25.8	22.6	22.6	22.6
71°	62.9	52.5	50.0	39.5	37.1	29.1	29.1	25.0	21.8	21.8	21.0
72.5°	59.7	49.2	46.8	37.1	35.5	27.4	27.4	23.4	20.2	20.2	19.4
75°	50.8	42.0	39.5	31.5	29.9	24.2	23.4	19.4	17.8	16.9	16.9
77.5°	39.5	33.1	30.7	25.0	24.2	19.4	18.6	16.1	14.5	14.5	13.7
80°	28.2	23.4	21.8	16.9	15.3	12.9	13.7	12.1	11.3	11.3	10.5
82.5°	16.9	12.1	12.1	9.7	10.5	8.1	8.9	8.9	8.1	6.5	6.5
85°	8.9	5.6	7.3	4.0	5.6	2.4	4.0	3.2	3.2	2.4	2.4
87.5°	1.6	0.0	0.8	0.0	0.8	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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	175°	180°
0°	481.8	481.8
2.5°	458.4	459.2
5°	426.9	428.5
7.5°	381.7	384.1
10°	327.7	329.3
12.5°	258.2	258.2
15°	180.8	182.4
17.5°	126.7	127.5
20°	106.5	107.3
22.5°	95.2	96.0
25°	84.7	85.5
27.5°	73.4	74.2
30°	66.2	67.0
32.5°	59.7	60.5
35°	54.1	54.1
37.5°	50.0	50.0
40°	46.0	46.0
42.5°	43.6	43.6
45°	41.2	41.2
47.5°	38.7	38.7
50°	36.3	37.1
52.5°	33.9	33.9
55°	31.5	31.5
57.5°	29.1	29.9
60°	27.4	27.4
62.5°	25.8	25.8
65°	25.0	25.0
67.5°	23.4	23.4
70°	21.8	21.8
71°	21.0	21.0
72.5°	19.4	19.4
75°	16.9	16.1
77.5°	13.7	13.7
80°	10.5	9.7
82.5°	6.5	5.6
85°	2.4	1.6
87.5°	0.0	0.0
90°	0.0	0.0

(END OF REPORT)